ABSTRACT

Title of Document: EVOLUTION OF THE AMERICAN LIFESTYLE: UNDERSTANDING RECENT CHANGES IN COLUMBIA, MARYLAND TO INFORM FUTURE GROWTH.

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Master of Architecture, 2013
Master of Community Planning, 2013

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Ideas and beliefs about human settlement patterns have made radical fluctuations throughout the twentieth century and have inspired a number of proposals for the ideal community form. This thesis explores the changes in these ideas over the past century and charts new ideas since the beginning of Columbia, Maryland in 1964. As Columbia's initial visions approach their fiftieth anniversary, changes throughout society and across the world pose challenges for these visions. The goal of this thesis is to spatially analyze current economic, environmental, and social issues in Columbia and proposed a series of strategies to guide design proposals. The intent is not to provide an entirely new solution for Columbia, but rather to determine how the initial framework for the planned new town can be adapted into a sustained method of growth for years to come.

EVOLUTION OF THE AMERICAN LIFESTYLE: UNDERSTANDING RECENT CHANGES IN COLUMBIA, MARYLAND TO INFORM FUTURE GROWTH.

By

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Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Architecture
2013

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Dedication

To my loving, supportive, and encouraging mother, father, and brother.

Acknowledgements

Thank you to my wonderful friends and family who supported me throughout my education and helped mold me into the person I am today. Thank you also to my thesis committee, Luis Quiros, Madlen Simon, and James Cohen who were valuable guides and resources throughout this thesis process.

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Chapter 1: Introduction

Prologue

The suburbs are the cultural identity of the United States, yet they provide an inherently unsustainable way of living. Largely a result of separated land uses from Euclidean zoning, the evolution of the suburbs has lead to the segregation of wealth, race, and income. In a country that is becoming more culturally diverse while simultaneously experiencing the stratification of the upper and lower classes, the nature of living in our nation is an important topic. Suburbs are continuing to sprawl across our nation and little attention is being paid to the future of these developments.

In 1962, developer James Rouse began buying land in Howard County, Maryland for the development of a new town and by 1963, Rouse owned one tenth of the land in the county. [1] Rouse's highly utopian ideas about community living lead him towards the creation of a town that could better the lives of its citizens and establish a development form different from the sprawling suburbs that were infiltrating the American countryside. Rouse assembled key figures for the design of his new town and young architect Morton Hoppenfeld was appointed chief designer. Neither Rouse nor Hoppenfeld were experts in social matters; thus, a work group was appointed that consisted of "thirteen members with backgrounds in the fields of government, recreation, sociology, economics, education, medicine, housing, transportation, communications, and family life." [2] The work group was tasked with establishing

[1] Carol A Christensen, *The American Garden City and the New Towns Movement* (Ann Arbor, Mich.: UMI Research Press, 1986), 108.
[2] Joshua Olsen, *Better Places, Better Lives : A Biography of James Rouse* (Washington, D.C.: ULI-The Urban Land Institute, 2003), 151.

innovative solutions that the new town would employ for the creation of community and social wellbeing. Upholding Rouse's utopian ideals, the team helped formulate a plan for the new town of Columbia, Maryland that outlined three fundamental goals:

1. *To create a social and physical environment which would work for people, nourishing human growth*
2. *To preserve and enhance the qualities of the land as we build*
3. *As a venture of private capital, to make a profit in the development and sale of land* [3]

These goals prescribe three main elements; social factors, environmental factors, and economic factors. In today's world, these three components comprise the three pillars of sustainability and many agree that each element must be fully addressed in order for the whole to be effectively sustainable. Thus, these three main goals are key to understanding Columbia's transition into today and serve as the underlying framework for research and development in this thesis proposal. The theoretical intent is to classify each of Columbia's three goals and observe how they are portrayed and interpreted in various urban design ideas of the past century. Simultaneously, this study will also reveal any urban ideas that were absent in Columbia's initial goals that might be applied today. This discovery will unveil new approaches towards modern development in Columbia while uncovering key issues the town faces today and ultimately answering the question that if Columbia initially strove for inclusivity and sensible development, what can be done to resolve current issues in Columbia and transition the founding ideals of the new town into a twenty-first century model for future development?

[3] Morton Hoppenfeld, "The Columbia Process: The Potential for New Towns," in *The Growth of Cities*, ed. David Lewis (New York: Wiley-Interscience, 1971), 35.

Process

This thesis begins with an investigation into the genesis of Columbia and its reason for being in a historical context. An analysis of urban ideas throughout the past century provides a context for Columbia and depicts ideas prior to Columbia's conception as well as ideas following the new town design. Charting the progression of these principles leads to a deeper understanding of the trajectory of each idea as it relates to future development in Columbia.

Following this timeline, a rigorous site analysis is conducted that utilizes social, economic, and environmental data from a plethora of sources. This data uses ArcGIS to project a spatial meaning and is subsequently applied to Columbia as it exists today. This analysis reveals seven key issues Columbia is confronting today, which in turn, leads to the development of various strategies to resolve these issues.

The development and application of the numerous strategies for Columbia is what gives rise to design solutions. These solutions are both diagrammatic and literal and are applied at three different scales; the city scale, the village scale, and the village center scale. A variety of design techniques and drawings depict the various strategies and how they might be employed throughout Columbia.

Chapter 2: Theoretical Framework

Introduction

In an effort to understand the impetus behind Columbia, Maryland, it is important to understand the town in a historical and theoretical context. Careful observation of evolving urban ideas throughout the past century is vital. With ever-changing societal goals and rapidly increasing technology, the post-industrial era has lead to a plethora of urban theories. This chapter examines the evolution of the economic, environmental, and social ideals Columbia employs and illustrates how ideas concerning these three topics have evolved over the past century.

The impacts of these three elements fall into two major sections: pre- Columbia and post-Columbia. With the goal of understanding how to transition Columbia to the twenty-first century, it is vital to recognize what changes have occurred in the world and in planning theory since the construction of Columbia in an effort to create a successful design for future development.

A large timeline is crafted that charts a number of economic, environmental, and social changes across major theories of the past century (See figure 1). These critical ideas are associated with major historical events of the past century in order to understand the genesis and implications of these ideas. Precedents of each key theory are depicted as scaled comparisons along the timeline to provide a visual understanding of the formal developments these ideas have sponsored. This chronological analysis provides new insight for Columbia's reason-for-being and provides a graphic diagram to draw conclusions about the changes in urban ideas of the past century.

Figure 1: Timeline of Urban Ideas

Thumbnail Images Courtesy of Google Earth

Economic

Theoretical Evolution

Economic viability is a highly visible characteristic of the Garden City Movement. In 1898, Ebenezer Howard proposes a new town development that combines the best elements of the city with the best elements of the county to create a new "town-country." [4] In his book, Howard emphasizes the importance of revenue generation for Garden Cities and upholds that money generated is allocated towards funding communal needs such as schools, libraries, and infrastructure. [5] The allocation and configuration of infrastructure and roads is comprehensive in Howard's Garden City. He describes the town as having a series of "six magnificent boulevards – each 120 feet wide – traverse the city from center to circumference, dividing it into six equal parts or wards." [6] A series of circular roads then connect the boulevards and divide the Garden City into a grid.

The Athens Charter promotes establishing a hierarchy of streets within the city and separating pedestrian circulation from automobile routes. [7] According to Le Corbusier, four functions – inhabiting, working, recreation, and circulation – serve to express the urban lifestyle. The goal is for the three main uses to be connected through circulation and the network of roads. [8] This approach to designing road networks encourages roads to surpass the pedestrian realm, resulting in the creation of large city blocks.

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[4] Ebenezer Howard, *Garden Cities of To-Morrow*, ed. F. J. Osborn, 1st ed. (Cambridge, Mass: The MIT Press, 1965).
[5] Ibid., 58–88.
[6] Ibid., 51.
[7] Le Corbusier and International Congress for Modern Architecture, "The Athens Charter," 83–85.
[8] Ibid., 95–96.

Le Corbusier also criticizes the economic functioning of the city in *The Athens Charter*. He depicts city governments as having little control over urban development resulting in the imbalance between the lack of regulation and the interests of private developers. Thus, Le Corbusier denounces the attitude that urban form is generated by money-driven developers thriving in an environment without governmental regulations and in turn, accepts the approach that protects the well being of city inhabitants and proposes a larger role for city governments in urban planning. [9]

The rapid distribution and growing popularity of the automobile combined with the Federal Highway Act of 1956 results in the swift development of road networks across the Nation throughout the mid-twentieth century. Massive subsidies to construct roads allow development to occur almost anywhere in the Nation. Residential development began to dot the countryside, sprawling outwards from urban centers. The car became the basis for travel, segregating those who could afford a car and those who could not.

As many theorists continue to separate the car and pedestrian, Jane Jacobs proposes integrated streets and short blocks instead. For Jacobs, a porous street network is key in allowing for pedestrian permeability throughout the city. [10] In her much later, 2004 novel *Dark Age Ahead*, Jacobs denounces the role of the automobile by saying, "not TV or illegal drugs but the automobile has been the chief destroyer of American communities." [11]

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[9] Ibid., 94.
[10] Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY: Random House, 1993), 178.
[11] Jane Jacobs, *Dark Age Ahead* (New York: Random House, 2004).

Critique of the automobile and its role in community development in the United States continues to today; yet, Peter Calthorpe proposes extensive ideas on how development can minimize car use and economic impacts. Following the Oil Crisis of 1973, economic interests surrounding non-renewable resources began to emerge through ideas about community development. With the Oil Crisis threatening the economic feasibility of automobile use, Calthorpe emerges with ideas about development centered on public transit stations. Transit lines were to connect major cities with transit-oriented development spawning at each major stop. [12] By focusing growth on public transit centers, not only is development more economically efficient by capitalizing on existing infrastructure and densifying smaller areas, but access and opportunity for those without cars is also enhanced. Additionally, Calthorpe proposes multi-modal streets, where cars share streets with pedestrians and cyclists. Drive lane widths are minimized to reduce car speeds and on-street parking and street trees help protect the pedestrian from moving traffic. [13] Similar to earlier ideas, street hierarchy is still a major factor in Calthorpe's idea of the city.

On a different wavelength, Landscape Urbanism seeks to reduce dependence on manmade infrastructure and promotes the use of more natural means of infrastructure. If executed correctly, the economic impact of a more natural approach to infrastructure could greatly reduce costs for say filtering water. However, infrastructure for transportation would require the invention of new technologies in order to create a more "green" approach to transit.

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[12] Peter Calthorpe, *The Next American Metropolis: Ecology, Community, and the American Dream*, 3rd ed. (New York, NY: Princeton Architectural Press, 1993), 104–106.
[13] Ibid., 95–97.

Duany's ideas on Agrarian Urbanism promote a more localized economy within the town through the farming and production of food. Existing as a bridge between New Urbanism and Landscape Urbanism, Agrarian Urbanism still promotes a hierarchical street network, but encourages the seamless integration of the agricultural environment with the built environment.

Analysis

Economic viability is an important factor in any development. Living in a market economy, development spawns from demand and can be significantly hindered if profit projections are too low. Thus, Le Corbusier brings up an important issue that government must play a role in regulating development to an appropriate extent. However, problems today exist from zoning policies of yesterday, so it is important that regulations are employed carefully and strategically.

As the price of oil continues to rise, American's dependency on the automobile is continuously being challenged. It is obvious that the car has served as one dividing factor between the rich and poor and to this day, ensures that our automobile accessible suburbs are for those wealthy enough to own a car. While Rouse envisioned a more thorough bus system in Columbia, the reality is that public transportation in Columbia is inadequate. Emphasis on public transportation is largely a result of the energy crisis and is a new issue that Columbia did not fully consider at its inception. Thus, public transportation is a critical component for new design in Columbia.

Environmental

Theoretical Evolution

The Garden City Movement is one of the earliest movements to thoroughly address issues with open space. Naturally, the idea behind Howard's "town-country" is centered on the notion that residents could have the amenities of the city together with the beauty and space that the country possesses. [14] In Howard's diagram, each Garden City has a central five-acre open space surrounded by public buildings. To supplement this, the Garden City has a 145-acre public park surrounding the civic center and a belt of agricultural land encircling the Garden City. [15] Between the central park and agricultural belt is a "Grand Avenue" that serves as a three-mile park and divides the town into two belts. [16] Howard's Garden City also attempts to ameliorate urban issues through land use policy. Striving to resolve the problems of the city, Howard describes a clear separation of land uses keeping park space, industry, civic buildings, and residential in a distinct series of "belts" around the town core. [17] With industry polluting many present cities at the turn of the twentieth century, Howard strives to ensure that undesirable land uses have designated areas away from residential areas to ensure that land uses are generally separated.

Supplementing Howard's distinct separation of uses was *The Athens Charter* by Le Corbusier. *The Athens Charter* explains that housing should be given the best location within cities and prescribes that residences be located in tall structures

[14] Howard, *Garden Cities of To-Morrow*, 53.
[15] Ibid.
[16] Ibid., 55.
[17] Ibid., 50–57.

surrounded by open space and clearly separated from all transportation routes. [18] The close proximity of work and residences is important, while the separation of industrial areas from residential areas is imperative. However, in contrast to Howard's ideas about open space, Le Corbusier promotes the expansion of open space in urban environments. Here, Le Corbusier upholds ideas from the Ville Radieuse that buildings should be tall and spread apart with ample green space between them. Buildings should also be lifted above the ground on piloti to free the ground plane for open public space. [19] The Athens Charter then moves on to describe the nature of open spaces as thriving recreational areas with the preservation of natural elements as a key component in ensuring a pleasant environment. [20]

During the middle of the twentieth century, the approach to land use policy took a drastic turn. In her 1961 book, *The Death and Life of Great American Cities*, Jane Jacobs advocates for cities to have a mix of uses as opposed to the Euclidean Zoning of the early part of the century. [21] Jacobs upholds that a mixture of uses, rather than separate uses will help promote diversity and create a more active environment. With Jacobs' four main components of a city being mixed uses, short blocks, mixed housing ages, and density, she largely neglects many ecological issues in the city.

The following year in 1962, Rachel Carson publishes *Silent Spring*, a novel commonly revered for launching the environmental movement. In her book, Carson raises concerns about the effects pollution and pesticides have on humans. Around the

[18] Le Corbusier and International Congress for Modern Architecture, "The Athens Charter," 61, 64.
[19] Ibid., 65.
[20] Ibid., 70–71.
[21] Jacobs, *The Death and Life of Great American Cities*, 152.

same time, Columbia is being designed with the preservation of natural systems as a fundamental component of the new town design.

In the following years, the creation of the Environmental Protection Agency in 1970 and 1973 OPEC energy crisis are significant events that begin to reshape ideas on the environment. A resultant sustainability movement emerges and on March 20, 1987, the United Nations officially define sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." [22] This newfound environmental movement influences new urban ideas and is evident in Peter Calthorpe's 1993 book *The Next American Metropolis*. In response to the energy crisis, Calthorpe describes mixed-use developments centered on public transportation instead of the highway system on which most suburbs, including Columbia, rely. For each development node, Calthorpe prescribes a mixed-use commercial core with adjacent areas existing of high to medium density residential districts. [23] As development continues to move further away from the commercial core, densities decrease and areas for schools, recreation, and daycares become prevalent. Calthorpe also addresses many of the raging environmental concerns during this time and does more than simply propose conserving the beauty of the natural environment as earlier ideas suggest. Calthorpe describes the ecological benefits of defining urban growth boundaries, establishing water reclamation systems, preserving wetlands and indigenous landscaping, and

[22] World Commission on Environment and Development, *Our Common Future: Report of the World Commission on Environment and Development*, UN Documents: Gathering a Body of Global Agreements (Oxford University Press, 1987), 41, http://www.un-documents.net/our-common-future.pdf.
[23] Calthorpe, *The Next American Metropolis*, 77–83.

exercising energy conservation. [24] In addition to ecological awareness, Calthorpe also prescribes a variety of open spaces within the city such as village greens, transit plazas, and parks, all which help enhance the public environment. [25]

Yet perhaps the most drastic change in views on ecology in urban environments exists in recent proposals from Landscape Urbanists. Heralding a unique concept, Landscape Urbanism promotes that the city should be designed around and in union with the environment and maintains that the built environment should exist as a secondary force to nature. In his essay "Terra Fluxus," James Corner describes how landscape urbanism gives priority to natural systems in the environment and upholds that "in conceptualizing a more organic, fluid urbanism, ecology itself becomes an extremely useful lens through which to analyze and project alternative urban futures."[26]

With sustainability continuing to have numerous effects on urban ideas, the most recent proposition by Andreas Duany for Agrarian Urbanism takes environmental issues on yet another path. Absent from the majority of the century is the provision of food in urban environments and only recently have innovations in urban farming and community gardens become commonplace. Duany proposes a fully functional, mixed-use neighborhood stemming from the bones of New Urbanist ideas, but instead centered on the issue of making food. [27] Residents will have both private and public

[24] Ibid., 72–76.
[25] Ibid., 90–93.
[26] James Corner, "Terra Fluxus," in *The Landscape Urbanism Reader*, ed. Charles Waldheim, 1st ed. (New York, NY: Princeton Architectural Press, 2006), 29.
[27] Andres Duany and Duany Plater-Zyberk & Company, *Garden Cities: Theory & Practice of Agrarian Urbanism* (London, UK: The Prince's Foundation for the Built Environment, 2011), 31.

gardens integrated into the town fabric with a seamless integration of agricultural practices in the built realm and public space.

Analysis

It is evident that ideas concerning the environment vary widely over the past century. Urban public spaces maintain a similar presence in many theories of the past century. However, the function of nature itself changes drastically. In both Howard and Le Corbusier's philosophies, preservation of the environment is for aesthetic pleasure of the residents. As the environmental movement arises, there is a clear shift in how nature is perceived. For Calthorpe, Corner, and Duany, the environment is an important system that exists simultaneously with the built environment. This new perception of nature and ecology will be a guiding principal for delineating development in Columbia.

Mixed use has taken an abrupt change in the past century. Starting off as strictly Euclidean and gradually moving towards comprehensive mixed-use communities shows a drastic evolution in urban thinking. Despite Jacob's propositions for mixed-use, Columbia maintains fairly separated uses, with buildings being exclusively for one use or the other. With the bulk of mixed-use propositions occurring after the development of Columbia, this area is a key component on which Columbia can capitalize in future development and will serve as another design principle for future development.

Social

Theoretical Evolution

Social concerns are widespread across the United States and vacillate throughout the twenty-first century. Changing urban environments, wars, women's suffrage, urban sprawl, the Civil Rights movement, the War on Drugs, the American's with Disabilities Act, and globalization are merely a few major events that shaped American society throughout the 1900s. Major scientific and technological innovations have arisen throughout the century and continue to rapidly transformation society today.

Understanding these major events in reference to ideas about human living and community form can provide insight into the purpose for these theories and reasons for changes throughout the century. Starting just before the turn of the century in 1898, Ebenezer Howard outlines the Garden City, which combines the best of the town and the country for an idealized new form for living. With devastating urban conditions at the turn of the twentieth century and strikingly rural exurban environments, Howard strives to establish a middle ground by creating the Garden City.

As a part of the social agenda, the goal of the Garden City is to ensure housing for a variety of workers. Letchworth Garden City, in the United Kingdom begins with this approach in mind, but ultimately the demand for housing and success of the town drove housing prices up, rendering them unaffordable for blue-collar workers. Thus, the homogenization of the Garden City was a predictable outcome. Nevertheless, careful social considerations are taken into account in Howard's establishment of a

clear pedestrian realm for the circulation of people with fairly uniform density across the town.

Following Howard's ideas on the Garden City were technological innovations that set nearly infinite limits on building heights. With the opening of the Empire State Building in 1931, building form was revolutionized. Capitalizing on these new technologies and spearheading the movement towards tall buildings was Le Corbusier and the Athens Charter in 1933. Le Corbusier advises a city full of tall buildings, separated by open space. [28] Alleviation of the ground plane complimented by the separation of roads ensures that Le Corbusier's vision of the city is parkland dotted with tall buildings. Another main goal of the Athens Charter is to ensure that "private interest will be subordinated to the collective interest." [29] This goal helps guarantee that everyone has equal access to all amenities provided by the city and shows a clear consideration for society as a whole in respect to the city.

Succeeding Le Corbusier's ideas on the importance of collective social interests and the tower in the garden aesthetic to urban design are a number of important national events that began to sponsor the development of the American suburb. The American Housing Act of 1949 and the Federal Highway Act of 1956 direct enormous amounts of money towards the rapid development of housing for returning war veterans and highways for automobile access. Capitalizing on newfound government money is Robert Moses who "led the nation's largest sum clearance program in the 1950s." [30] With devastating effects on low-income and minority

[28] Le Corbusier and International Congress for Modern Architecture, "The Athens Charter," 98–99.
[29] Ibid., 105.
[30] Hilary Ballon and Kenneth T Jackson, *Robert Moses and the Modern City: The Transformation of New York* (New York: W.W. Norton & Co., 2007), 94.

communities, many of these major slum clearance projects in New York City lead to homogeneous neighborhoods.

As America moved past the middle of the century, critiques on the homogeneity and segregation of American suburbs were rife. Often serving in direct opposition to Robert Moses, Jane Jacobs upholds in her 1961 novel the *Death and Life of Great American Cities* that "big cities are natural generators of diversity and prolific incubators of new enterprises and ideas of all kinds." [31] For Jane Jacobs, density and diversity are two key components to a successful city. It is imperative that cities have an assortment of different buildings of various ages and styles. [32] Jacobs sees diverse buildings as a key factor in preventing the homogenization of urban environments as they can help maintain a varied community. In her novel, Jacobs also coins the term "eyes on the street" which begins to encourage a more active street realm that is not solely for cars as previously proposed.

In the years immediately after Jane Jacob publishes her book, plans for Columbia Maryland begin to materialize. Taking into careful consideration, elements of earlier theories, Columbia strives to create the "best possible environment for the growth of people" with a diverse, integrated community serving as a main focus for the new town. [33] Similar to ideas prior, Columbia develops extensive green areas dedicated to pedestrian use. Separating the pedestrian from the automobile is a key goal for Columbia is still evident today.

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[31] Jacobs, *The Death and Life of Great American Cities*, 145.
[32] Ibid., 187.
[33] *Columbia: A New Town for Howard County* (Community Research and Development, Inc, November 11, 1964), 11, http://www.columbiaarchives.org/_files/pdfs/51pagebooklet.pdf.

Shortly after the presentation of Columbia's masterplan in 1964, Edmund Bacon publishes the Design of Cities where he discusses that the city should be designed at multiple scales in order to property address how people experience the city.[34] Bacon also supports a variety of movement systems throughout the city, which help encourage diversity and access for all people.

Perhaps spurred by Bacon's "simultaneous movement systems," Peter Calthorpe initiates ideas surrounding transportation and development. Similar to Jacobs, Calthorpe places a strong emphasis on diversity in his ideas about town development, criticizing present zoning laws for encouraging the segregation of age groups, income groups, and ethnic groups. In his propositions for transit-oriented developments, Calthorpe prescribes that towns have a mix of housing types and are walkable in order to provide access for all people. [35] The idea that the pedestrian realm now encompasses the street is contrary to the earlier ideas of Le Corbusier and others. Calthorpe also becomes more prescriptive than many of his predecessors about the architecture of town development. In *The Next American Metropolis*, Calthorpe establishes guidelines for building configurations, setbacks, facades, entries, and garages in an effort to prescribe what he deems to be important design elements for successful communities. [36]

Andres Duany supports many of Calthorpe's ideas in his coining of the "New Urban" typology. Duany sees "the structure and function of a community as interdependent," and as a result, design should support the social needs of a

[34] Edmund N Bacon, *Design of Cities* (New York: Viking Press, 1967).
[35] Calthorpe, *The Next American Metropolis*.
[36] Ibid., 77–86.

neighborhood. [37] In the Charter of the New Urbanism, the following goals are outlined:

> "We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice." [38]

It is clear that again, diverse communities and multi-modal movement systems are key components to good neighborhoods. New Urbanism also promotes a regional architecture that is more cognizant of local climate and history.

Analysis

While social concerns surrounding diversity and density vary throughout the past century, no ideas outright denounce diversity in favor of a homogenous society. Columbia clearly understands the importance of diversity as it was founded on the basis that people of all races and incomes could live in harmony together. However, when observing these theories from a social lens, it is clear that the one major shift that has happened after the start of Columbia was the transformation of the pedestrian realm. Before Columbia and as it exists in the town today, the pedestrian realm is mainly delegated to areas separate from other means of transportation. However, as Bacon prescribes through "simultaneous movement systems" and New Urbanists suggest through integrated street networks, it is clear that a major shift in the pedestrian realm towards a multi-modal system has occurred after the construction of

[37] Andres Duany and Elizabeth Plater-Zyberck, *Towns and Town-Making Principles* (New York, NY: Rizzoli, 1991), 21.
[38] "Congress for the New Urbanism," 1997, http://www.cnu.org/ (accessed December 10th, 2012).

Columbia. Thus, complete multi-modal streets are an important variable in designing changes for Columbia, Maryland.

Conclusion

Understanding the social, environmental, and economic approaches of urban ideas of the past century has given light to four major components for transitioning Columbia into the twenty-first century. The major economic change since Columbia is the nature of and emphasis on public transit and smart growth. Two environmental components arose as a result of changes since the construction of Columbia. First, there has been a major shift in how ecology relates to the urban environment from preserving ecology to actually enhancing natural systems. Secondly, mixed use has evolved drastically since 1900 and is a major component for a fully serviced and well-integrated community. The social aspect that has come to light in recent years is the integrated pedestrian realm, where pedestrians are not merely quarantined in their own areas but fully integrated into the street realm and public spaces. These five key changes indicate a social shift in how society perceives their settlement patterns. While they each can be further debated, for the purposes of this thesis, they serve as underlying design forces in the interventions proposed for Columbia.

Chapter 3: A Planned New Town

Introduction

Understanding the historical background of the planned new town is critical for preserving the unique development framework of Columbia. This chapter investigates the history of Columbia and its evolution to today. It then proceeds to dissect Columbia at the regional, town, and village scales striving to understand social, environmental, and economic at each scale. The chapter concludes with precedent comparisons of Columbia to the planned new towns of Reston, Virginia and Irvine, California.

History

As a mid-twentieth century planned new town, Columbia, MD strove to establish a new paradigm for American living. By 1963, developer James Rouse had acquired one-tenth of the land in Howard County through purchasing many properties. [39] His goal was to build a new city where "private developers could plan and build an environment that nurtured the growth of people." [40] Rouse appointed chief designer Morton Hoppenfeld and assembled a work group of diverse scholars to consider and conceive what this new town should become. Hence, the plan for a new town, named Columbia, and the three founding principles that addressed economic, social, and environmental factors came to fruition.

[39] Christensen, *The American Garden City and the New Towns Movement*, 108.
[40] Columbia Association, "Columbia Archives: Preserving the History of Columbia, MD," *Columbia Archives*, 2012, http://www.columbiaarchives.org/?action=content.home.

The physical design of Columbia was a new town to be comprised of a series of diverse, walkable villages (See figure 2). Ten villages in all would makeup Columbia with green space serving as the uniting fabric between villages. At the heart of Columbia was a Town Center that would be the main hub of the new town. Bus routes would link the villages to the Town Center and a regional highway would link the Town Center to the larger Maryland region.

Figure 2: New Town Diagram of Columbia, MD **Recreated by author from diagram by Morton Hoppenfeld**

Each village was designed to have a mix of uses and contain all necessary elements needed for everyday life. Walkable village centers based on the quarter mile walk radius served as the focal point of each village and housed essential retail needs such as dry cleaners, grocers, liquor stores, small cafes as well as minor office needs. Diverse housing types with highest density housing located closest to the village centers and a lower density as you move further away was the residential development pattern for each village. Village centers also had civic buildings such as

a community center, middle and high school, an interfaith center that would allow for people of all denominations to worship, and typically a recreation facility such as a swim center or ice rink. Each village center had an outdoor civic space to encourage community interaction while overall green space such as stream valleys, woods, and lakes that were home to biking and walking paths for all residents and served as the connective thread between villages. [41]

Figure 3: Village Diagram for Columbia, Maryland **Recreated by author from diagram by LDR International**

Villages were intended to be diverse both demographically but also in their range of housing types and land uses in an effort to help serve the community and accommodate all people. Rouse's ideas of equality and integrated neighborhoods predated the Fair Housing Act of 1968 and were viewed as radical and progressive. [42] Development finally broke ground for Downtown Columbia in 1966 after approval of

[41] *Columbia: A New Town for Howard County*. Community Research and Development, Inc.: Baltimore, MD, 1964. (p. 14) <http://www.columbiaarchives.org/_files/pdfs/51pagebooklet.pdf>
[42] Columbia Association, "Columbia Archives: Preserving the History of Columbia, MD."

the masterplan in 1965, and began construction the first Village of Wilde Lake in 1967.

Regional Scale

Economic

Over the past fifty years, Columbia has evolved into a wildly popular place to live. Columbia is the second largest city in Maryland after Baltimore at just under 100,000 people as of the 2010 census. In 2010, CNN's Money Magazine named Columbia the second best place to live in the United States. [43] Housing prices are strikingly high and average incomes in the county top the nation. Since 2006, Howard County has been ranked one of the top five highest median household income counties in the nation according to the US Census Bureau. [44]

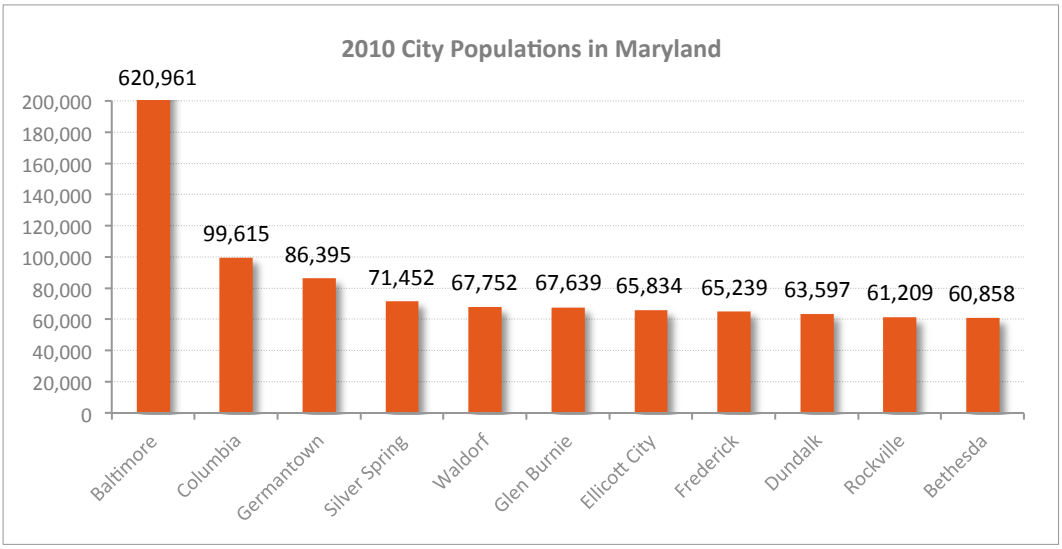

Figure 4: 2010 City Populations in Maryland
Image produced by author using data from the Maryland State Data Center

[43] "Best Places to Live 2010," *CNN Money Magazine*, September 1, 2010, http://money.cnn.com/magazines/moneymag/bplive/2010/top100/.
[44] The US Department of Commerce, "Census Bureau Home Page," *The United States Census Bureau*, 2012, http://www.census.gov/.

Boasting the second lowest unemployment rate, the lowest vacancy rates, and the 3rd highest wage average, the county as a whole is quite prosperous. [45] Both the median household value of $447,000 and median household income of $105,692 in Howard County is higher than the state averages of $319,800 and $72,419 respectively. [46] Despite this data being for the whole county, it shows the immense prosperity throughout the area. Major highways serve as the arteries from these major cities to Columbia, with the Marc train servicing areas directly between Baltimore and Washington DC located east of Columbia.

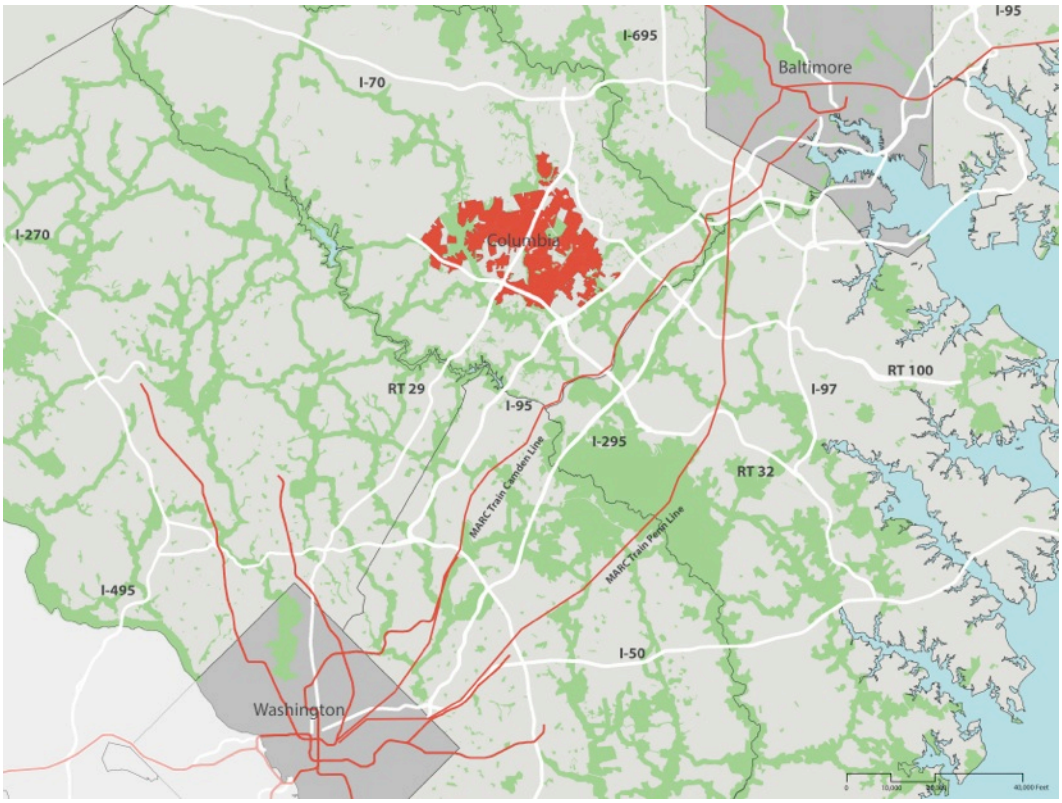

Figure 5: Regional Context Image produced by author using Maryland Departments of Natural Resources and Transportation Data

[45] The Mid-Atlantic Information Office. *The Bureau of Labor Statistics*. 2011. http://www.bls.gov/ro3/mdlaus.htm
[46] The US Department of Commerce, "Census Bureau Home Page."

Environmental

Columbia, Maryland is located in Howard County, approximately 18 miles from Baltimore and 26 miles from Washington DC (see Figure 4). Proximity to these major cities provides Columbia with unique access to amenities and jobs in either location. It is important to compare the scale of each city with Columbia at 31.93 square miles, Washington DC at 68.3 square miles, and Baltimore at 80.94 square miles according to the U.S. Census Bureau. [47] This shows that the size of Columbia is nearly half that of our Nation's Capital. The region also lies in the Chesapeake Bay watershed and has a number of preserved forests and parks.

Social

Howard County is a relatively diverse county when compared to the United States. At 61 percent white, 18 percent black, and 15 percent Asian and 6 percent Hispanic, these four races encompass the majority of the county. [48] According to the 2010 Census, Howard County has a higher education rate for persons with high school degrees at 95 percent and a substantially higher rate for persons with bachelor degrees or higher at 59 percent when compared to the state averages 88 percent and 31 percent of respectively. Howard County also has a density of almost 1145 people per square mile, whereas the state average is 595.

[47] Ibid.
[48] Ibid.

Town Scale

Economic

Within Columbia there have been drastic comprehensive changes between 2000 and 2010 concerning economic prosperity of the town. Median household income and median household value have both made drastic jumps in the past decade according to the Census Bureau (See figures 6-9). It should also be noted that the wealthiest areas are to the west in the village of River Hill while the less wealthy areas are in the villages surrounding the Town Center.

In an effort to revitalize the Town Center, the 2030 proposal for Downtown Columbia has just recently been adopted. Columbia is looking to reestablish its commercial center as a dense, walkable, live-work-play area where nearly 4.3 million square feet in office space and 5,500 residential units are being sought. [49] This development could significantly impact adjacent villages such as that of Oakland Mills and Wilde Lake through rising residential demands and the creation of new jobs.

Another development is that of Blandair Park, which lies along the eastern border of the village of Oakland Mills. Consisting of almost 300 acres, Blandair Park is well into construction for various athletic fields, nature walks, and environmental education facilities. [50] These public amenities will also add tremendous value to the area.

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[49] *Downtown Columbia Plan: A General Plan Ammendment* (Howard County, MD, March 1, 2010), 73, http://www.howardcountymd.gov/WorkArea/DownloadAsset.aspx?id=6442461824.
[50] "Blandair Regional Park (Capital Project N3102)," *Howard County Maryland: Recreation and Parks*, 2012, http://www.howardcountymd.gov/blandairregionalpark.htm.

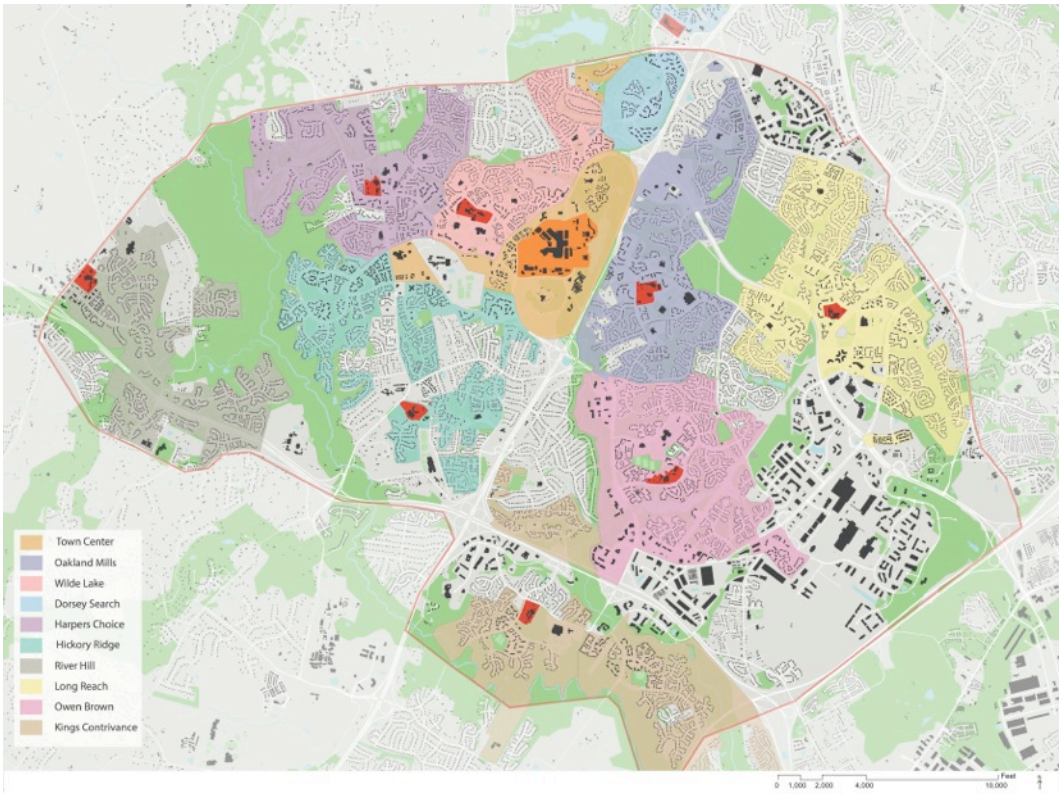

Figure 6: Columbia Villages and Village Centers Image produced by author using Howard County GIS Data

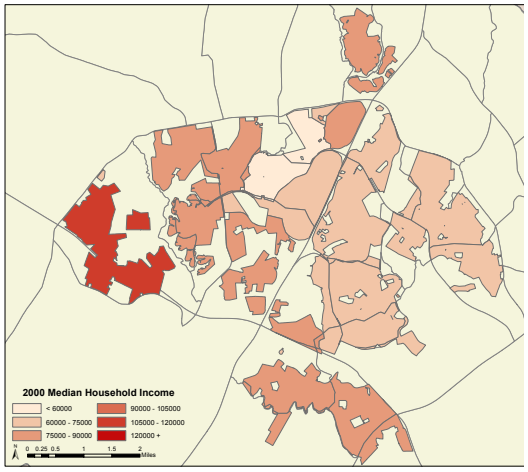

Figure 7: Median Household Income in 2000

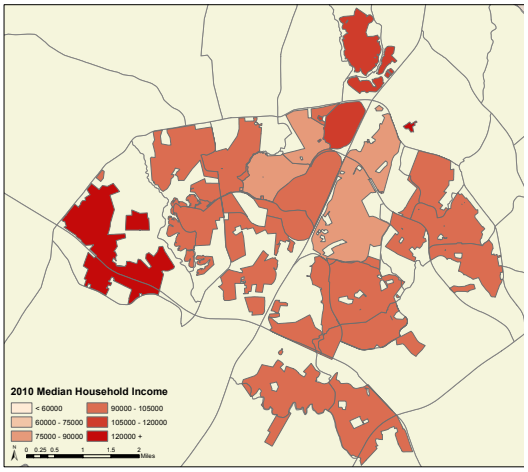

Figure 8: Median Household Income in 2010

Image produced by author using American Community Survey Data

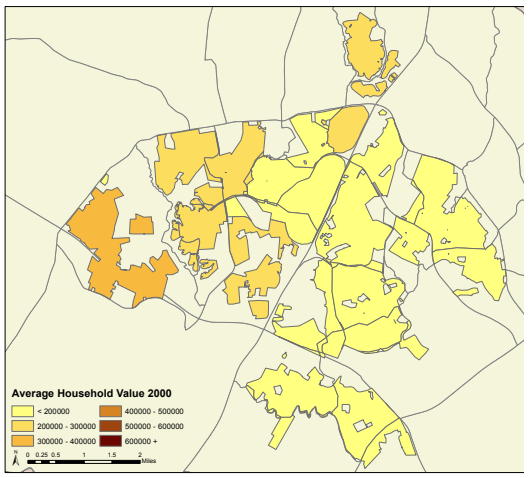

Figure 9: Median Household Value in 2000

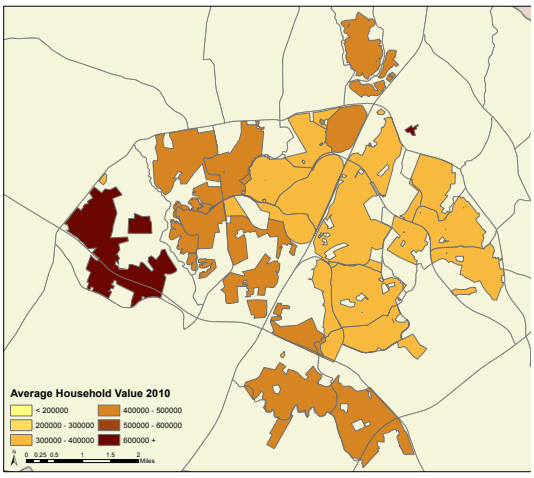

Figure 10: Median Household Value in 2010

Image produced by author using American Community Survey Data

Environmental

Observing both the change in land use and open space in Columbia between 2002 and 2010 is important in understanding spatial trends and recent developments. Between 2002 and 2010 there were very minor land use changes, which shows the fairly stagnate form of Columbia now that it has reached full build out with the completion of the final village of River Hill.

There is a moderate decrease in the size of large green space across Columbia between 2002 and 2010. The green spaces are often home to streambeds that serve as natural watersheds, catching and filtering runoff from neighborhoods and cycling water through the larger region. By providing streambeds with a large vegetated buffer, natural floodplains are protected from all construction. In any further development of the area, it is extremely important to map and preserve these conservation areas to ensure that these natural processes are maintained.

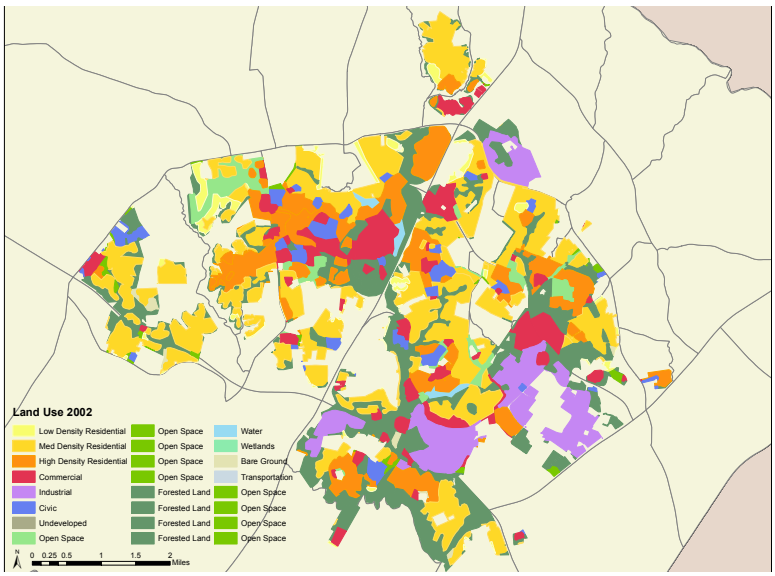

Figure 11: Land Use in 2002 Image produced by author using Maryland Department of Planning Data

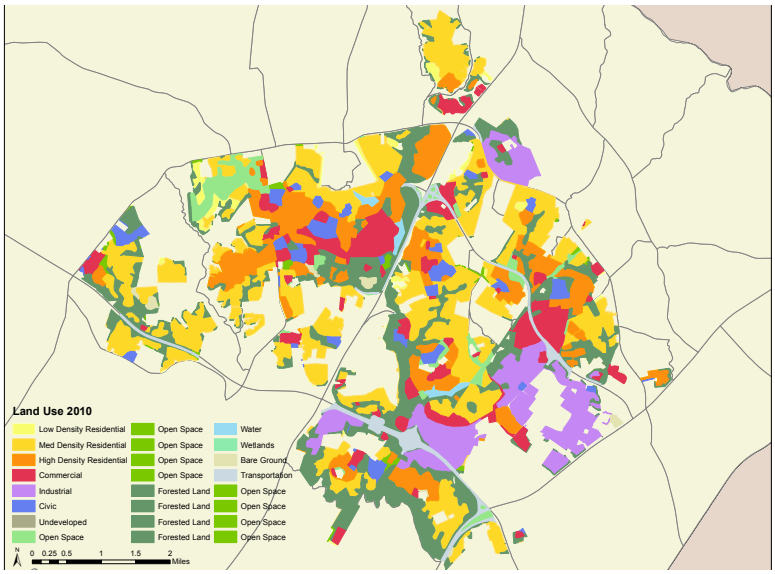

Figure 12: Land Use in 2010 Image produced by author using Maryland Department of Planning Data

Social

With the intent for Columbia to be a diverse and integrated community, it is important to understand the racial composition of each village and how they relate across the new town. Thus, the following maps were constructed to show the demographic changes in racial composition by village in 2000 and 2010 (See figures 12-19). They measure the percentage of the population of each race in each village.

From these studies, it can be concluded that there is an overall general decline in the percentage of whites in Columbia, there is a centralized increase in the percentage of blacks in villages near the Town Center, and there are increases in both the percentage of Asians and Hispanics fairly uniformly across Columbia.

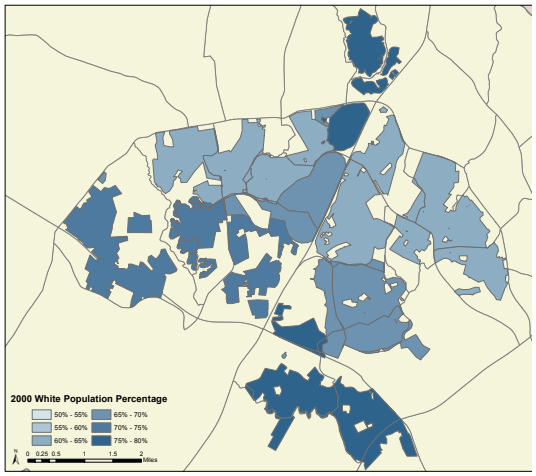

Figure 13: White Population in 2000
Images produced by author using U.S. Census Data

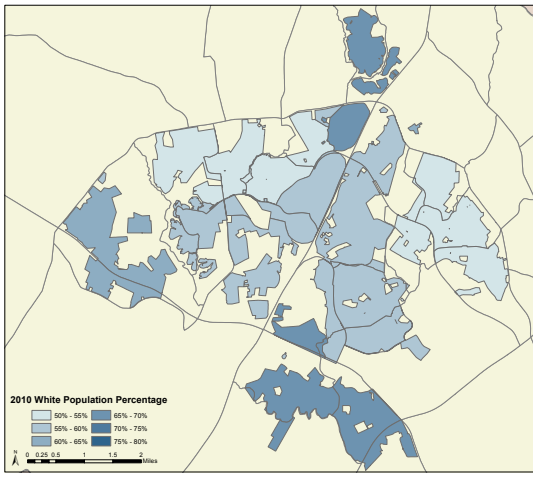

Figure 14: White Population in 2010

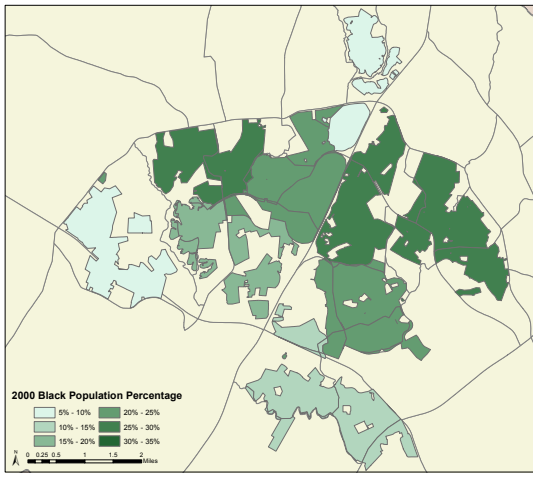

Figure 15: Black Population in 2000
Images produced by author using U.S. Census Data

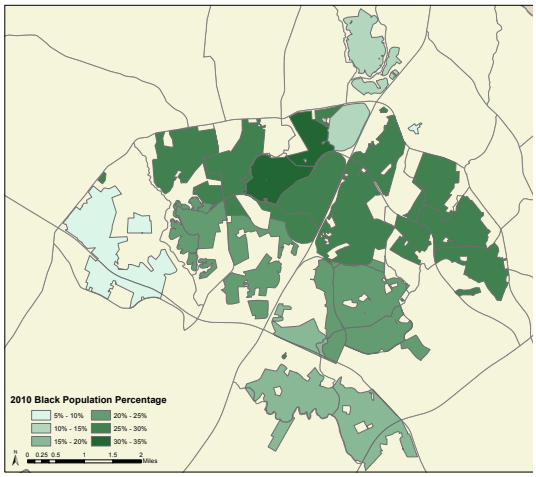

Figure 16: Black Population in 2010

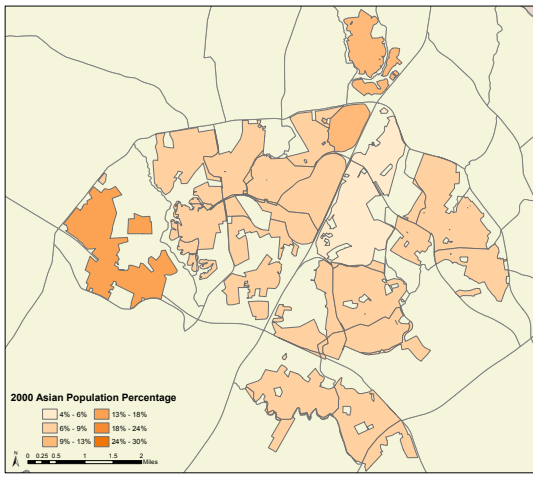

Figure 17: Asian Population in 2000
Images produced by author using U.S. Census Data

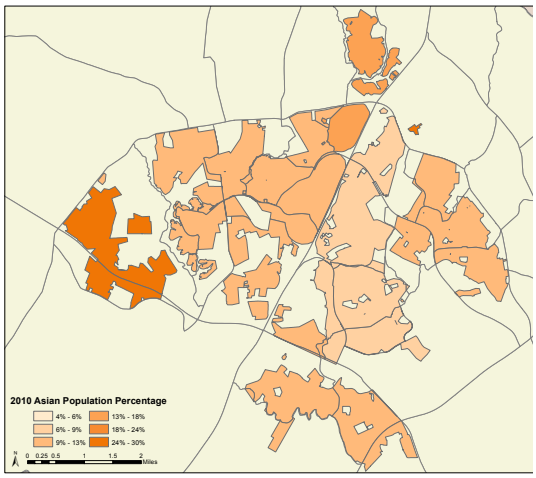

Figure 18: Asian Population in 2010

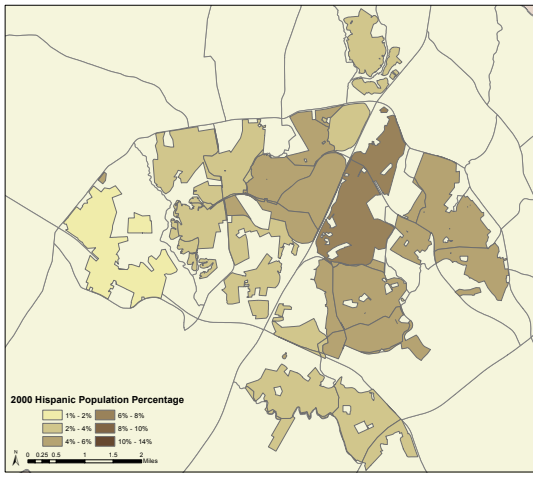

Figure 19: Hispanic Population in 2000
Images produced by author using U.S. Census Data

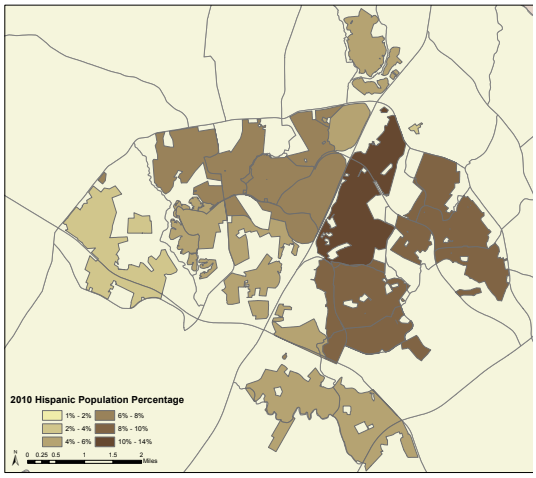

Figure 20: Hispanic Population in 2010

Clearly there are increasing percentages of minority populations in Columbia, which leads to increased cultural diversity and presents opportunities for village redevelopment. With the heaviest white populations in the north and south, black populations in the central villages, Asian populations in the west, and Hispanic populations in the east Columbia does not have uniform diversity, but this does keep villages ethnically unique.

Precedent New Towns

Reston, Virginia

Reston, Virginia is often compared to Columbia, Maryland in terms of organization, age, and concept. Founded in 1964, Reston was constructed around the same time as Columbia. Both towns are branded as planned new towns and incorporate a village approach to city organization. While Columbia is centered on the Town Center and Lake Kittamaqundi, Reston's center is focused on Lake Anne. Integrating uses allowing people to live, work, and play within walking distance is a goal in both Columbia and Reston as well.

Today, Reston has constructed a new town center that has a similar approach to that of Columbia's Downtown Redevelopment Proposal with mixed use, defined street edges, and walkable streets. However, Reston's new town center is completely detached from the original center on Lake Anne. This poses a unique opportunity for Columbia to observe how a planned new town will react to a new nucleus and measure the impacts of this new development on adjacent villages. The following images depict a scaled relationship between Columbia and Reston. In this comparison, the similarities in density, green space, and overall form are obvious.

Figure 21: Columbia, MD Image from Google Earth

Figure 22: Reston, VA Image from Google Earth

Irvine, California

Irvine California is yet another planned new town, built around the time of Columbia. In her novel, *Reforming Suburbia*, Ann Forsyth compares the three planned communities of Irvine, Columbia, and the Woodlands. Similar to Columbia, Irvine continues to thrive economically through today and has been regarded as one of the best places to live. [51] However, the two differ in their initial planning priorities. Columbia highly regarded the social aspects of the new town, whereas Irvine highlighted and focused on the physical design, leaving vast areas of similar housing types. This in turn, has encouraged homogeneity throughout Irvine. [52] Below are two scaled images of Columbia and Irvine to begin to understand the difference in development fabric between the two.

Figure 23: Columbia, MD **Image from Google Earth**

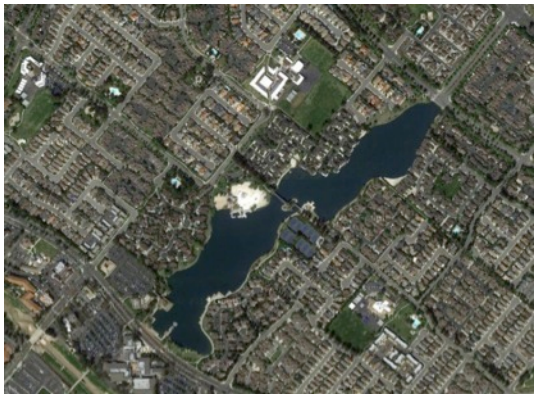

Figure 24: Irvine, CA **Image from Google Earth**

[51] Ann Forsyth, *Reforming Suburbia : The Planned Communities of Irvine, Columbia, and the Woodlands* (Berkeley: University of California Press, 2005), 9.
[52] Ibid., 78.

Chapter 4: Methodology – Issues

Introduction

Defining a methodology is the most critical element of this thesis. Establishing a highly analytical and rigorous process is important in order to produce a method and strategies for intervention that can be applied in other places. Rigorous data analysis is vital in understanding the current economic, environmental, and social characteristics of Columbia today.

Data from the U.S. Census Bureau, American Community Survey, Maryland Department of Transportation, Maryland Department of Natural Resources, Maryland Department of Planning, Howard County GIS, and the Columbia Association is translated into GIS to give spatial significance to the information. The analysis of this data results in the definition of seven key issues Columbia faces today. These key issues are diagramed and overlaid, resulting in a critical analysis of where and how to intervene. The final product is a set of strategies that help guide design solutions for the seven key issues.

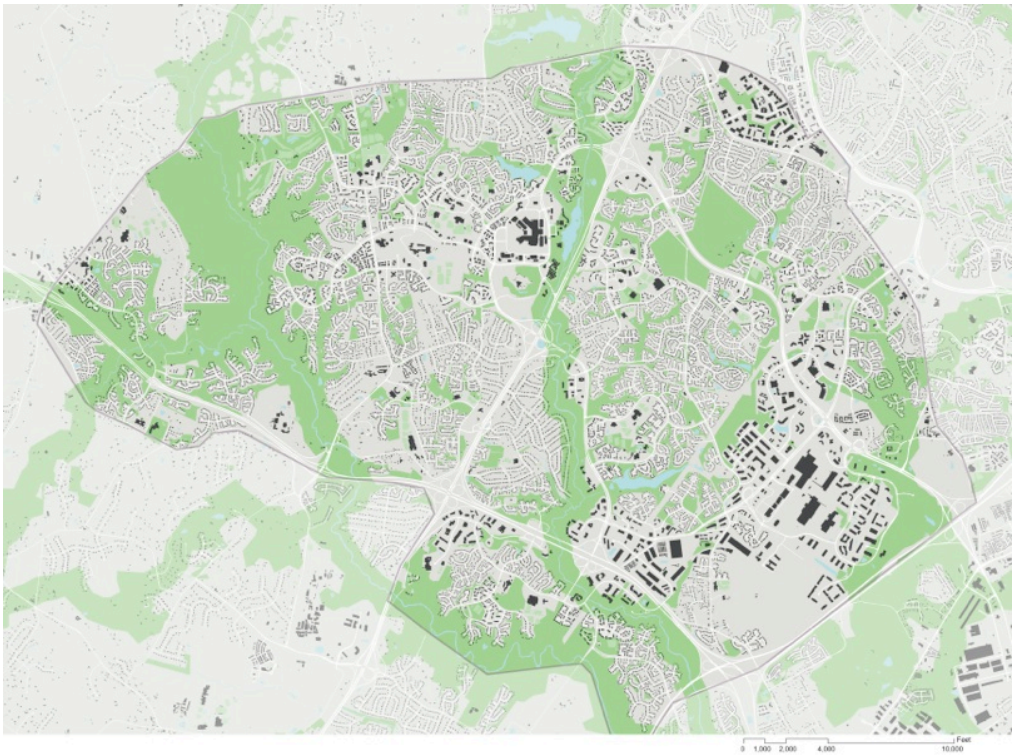

Figure 25: Current Map of Columbia Image produced by author using Howard County GIS Data

Seven Key Issues

Economic: Development Pressures from New Town Center

Generally speaking, Columbia has reached its full build out as originally conceived. Each village and village center is completed with the initial villages of Columbia having been completed for nearly five decades. In an effort to explore infill opportunities, Columbia has approved and initiated the redevelopment of the Town Center into a mixed-use, high-density development that adds 4.3 million square feet of office space, 1.25 million square feet of retail space, 5,500 residential units, and 640 hotel rooms. [53] This proposal essentially inserts a new center into the middle of the established New Town and the implications this development will have on

[53] *Downtown Columbia Plan: A General Plan Ammendment*, 73.

adjacent villages are imperative to consider. Given a county population that is projected to increase by almost 60,000 people by 2040, the need for residences to support this massive influx will be critical for the villages in Columbia. [54]

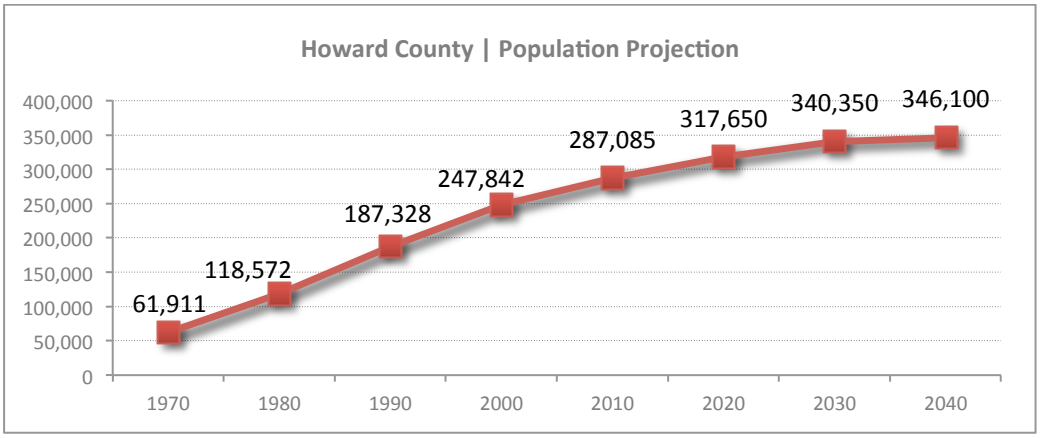

Figure 26: Howard County Population Projections
Image produced by author using data from the Maryland State Data Center

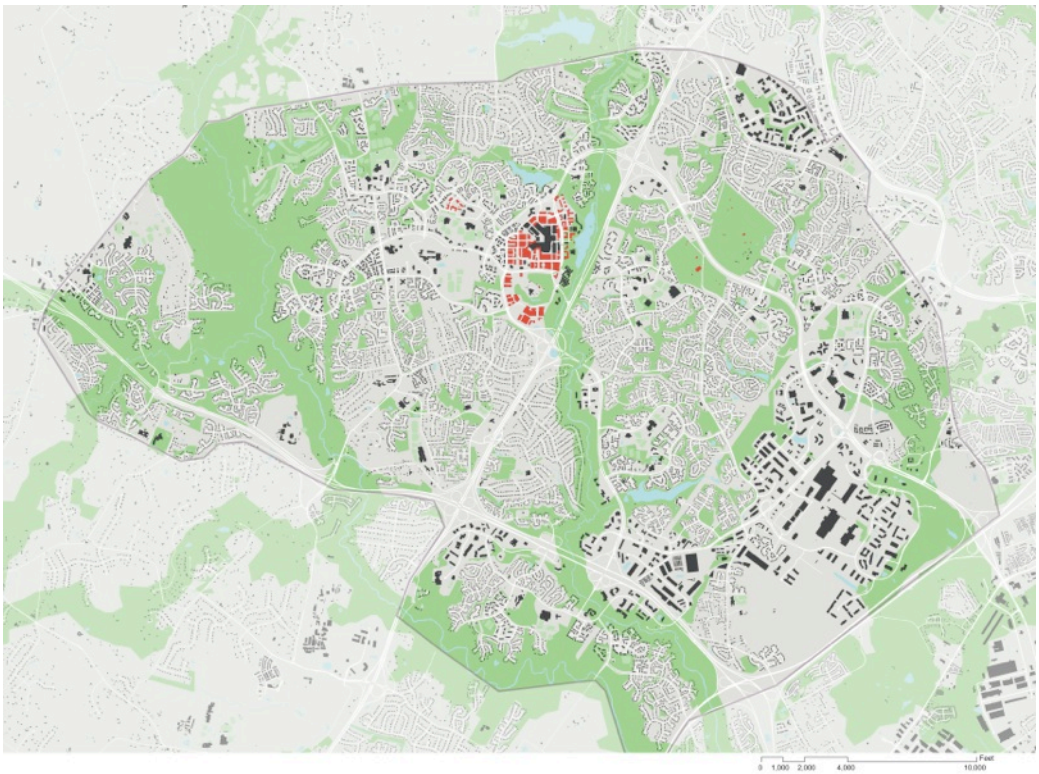

Figure 27: Issue 1 – Development Pressures from New Town Center
Image produced by author using Howard County GIS Data

[54] Maryland State Data Center, *Howard County: Demographic and Socio-Economic Outlook* (Maryland Department of Planning, May 2012), http://www.mdp.state.md.us/MSDC/County/howa.pdf.

Furthermore, Howard County hypothesizes the distribution of the projected population in its Water Resources Element. Here, the report states, "an additional 1,000 apartment units are assumed in the Columbia Village Centers" by 2030.[55] Such growth would be substantial for any village center and is a key issue to explore in upcoming years. Thus, the development pressure from the new Town Center becomes the first key issue that Columbia is facing.

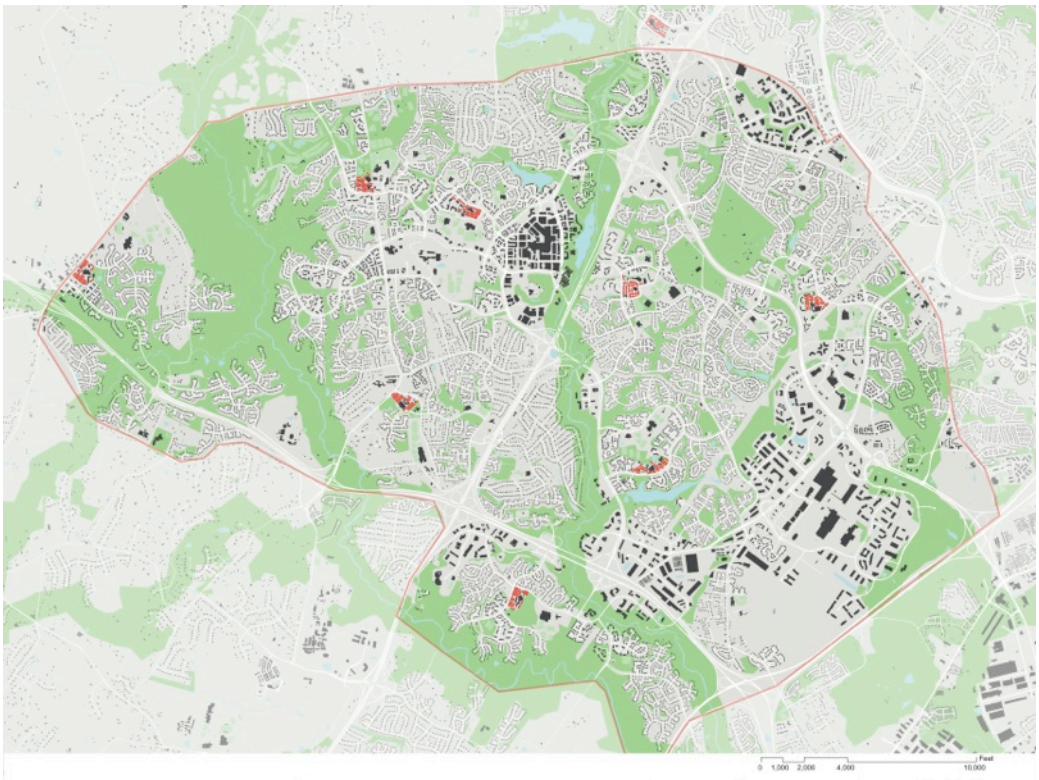

Figure 28: 1,000 Additional Apartment Units per Village Center
Image produced by author using Howard County GIS and Water Resources Element Data

[55] Department of Planning and Zoning, *Water Resources Element* (Howard County, April 2010), 46, http://www.howardcountymd.gov/WorkArea/DownloadAsset.aspx?id=6442461621.

Economic: Financially Distressed Village Centers

The village centers in Columbia are critical elements of the new town design. They provide daily needs within walking distance for each village and serve as common ground for community residents. Yet throughout the years, the village centers have struggled to survive. One reason for this is the insulated nature of the village centers. Nestled in the heart of each village and located far from major roads, the village centers are inaccessible and not visible, which has proven detrimental to the success of retail and office uses in each center.

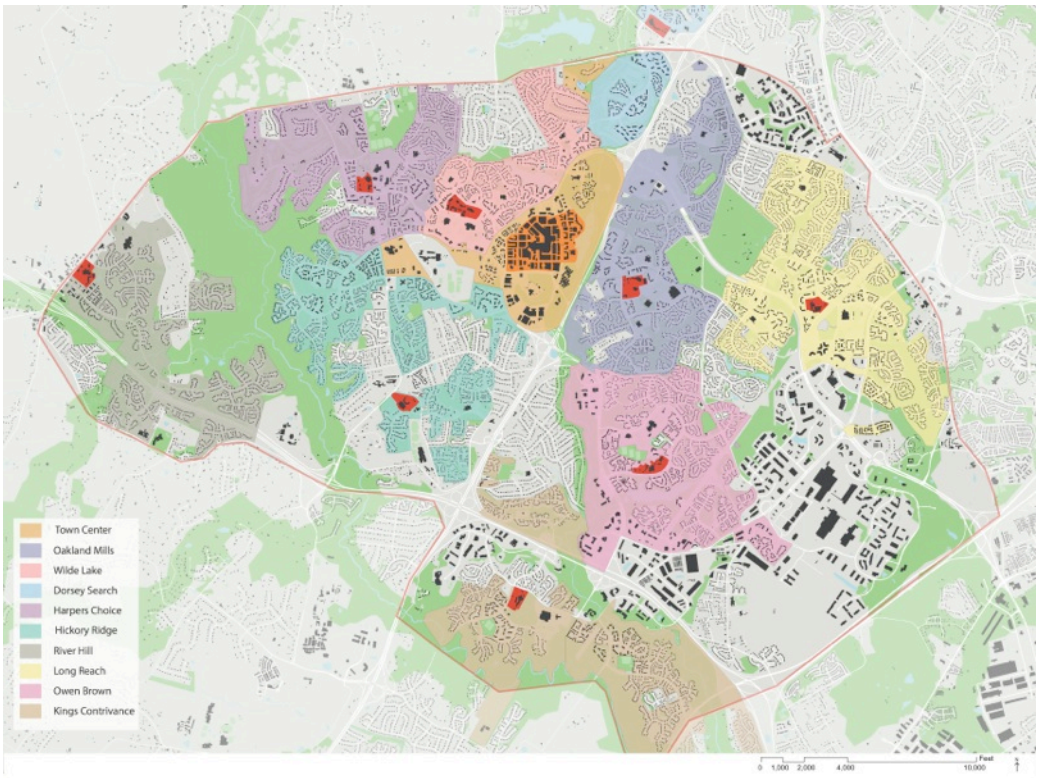

Figure 29: Issue 2 – Struggling Village Centers Image produced by author using Howard County GIS Data

Expansive retail and office development to the south east of Columbia is proving life threating to the village centers. The vast number of big box stores in this outlaying area has greatly harmed retail in the village centers. Small grocers competing with a brand new Wegmans and Trader Joes will have stiff competition in

future years. If the anchor grocers leave the village centers, this will have deadly effects on the other small retail there. Thus, both the current and future concerns of the village centers results in the second issue of Columbia's economically struggling village centers.

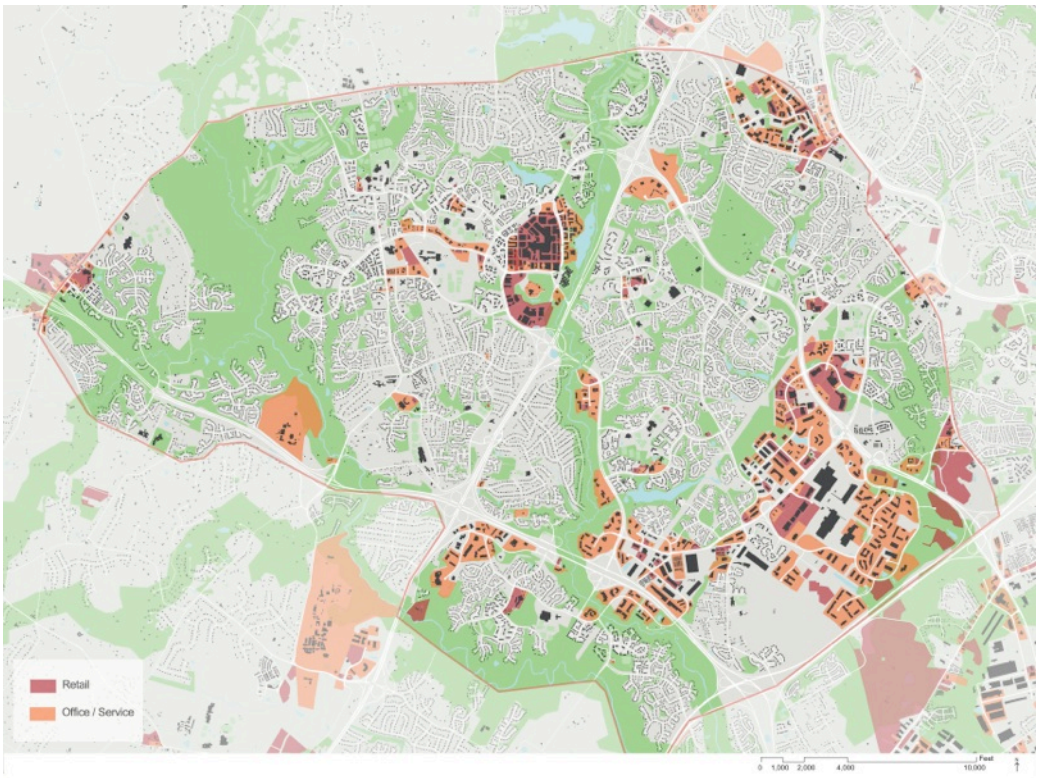

Figure 30: Retail and Office Space Image produced by author using Howard County GIS Data

Environmental: Divisive and Disorienting Street Network

Columbia's road network was intended to circumvent the villages and while this is somewhat achieved, the result is a chaotic, nonsensical system of streets. Few roads in Columbia actually serve as through streets and the majority of them are mapped below. As a result, there are a large number of dead-end streets, which places heavy traffic on through roads. This heavy traffic then prevents the roads from being easily crossed, resulting in streets as barriers that begin to divide Columbia. This divisive and disorienting nature of the street network is what gives rise to Columbia's third issue.

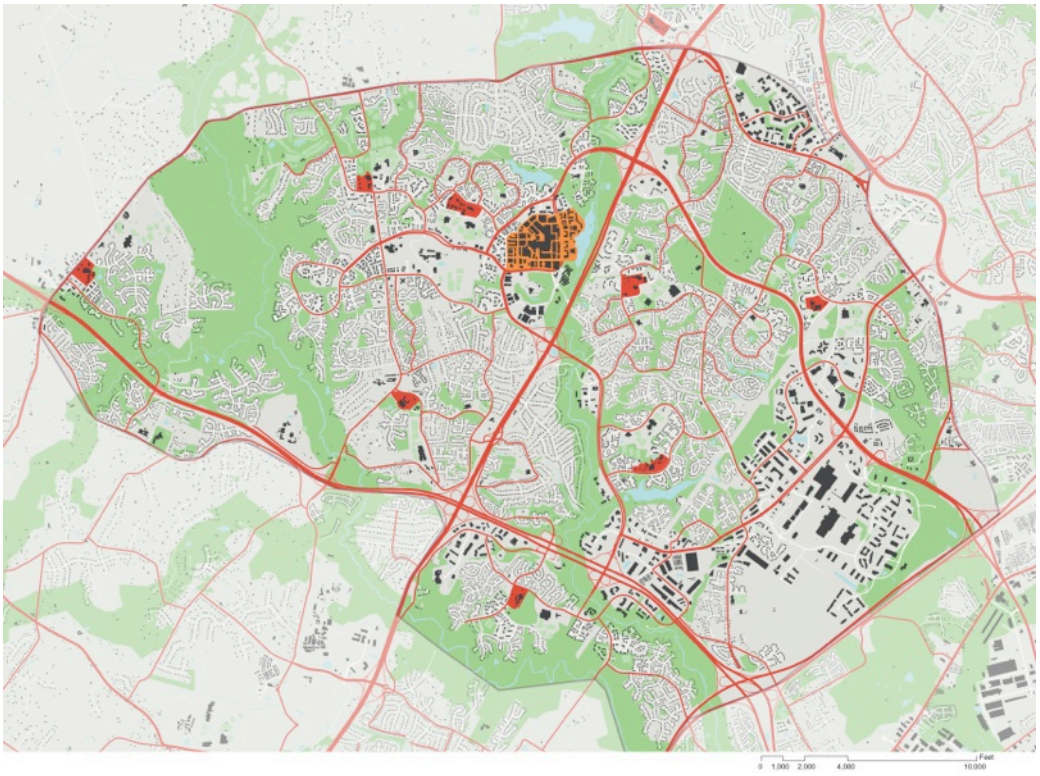

Figure 31: Issue 3 - Divisive and Disorienting Street Network
Image produced by author using Howard County GIS and Maryland Department of Transportation Data

Environmental: Auto-Oriented Transportation Network

The majority of residents in Columbia travel by car. In fact, only 3.7 percent of households in Howard County have no car as opposed to the state average of 9.5 percent. [56] This places more pressure on roads and in looking towards future growth, could be detrimental to the current transportation infrastructure in Columbia. The need for private cars is further enhanced by the lack of comprehensive public transit. The following map depicts the most direct routes from any given village center to the Town Center. The indirect nature in which residents must travel across Columbia is consuming many resources and complicating increasing traffic issues. This automobile oriented transportation network is a critical issue for Columbia.

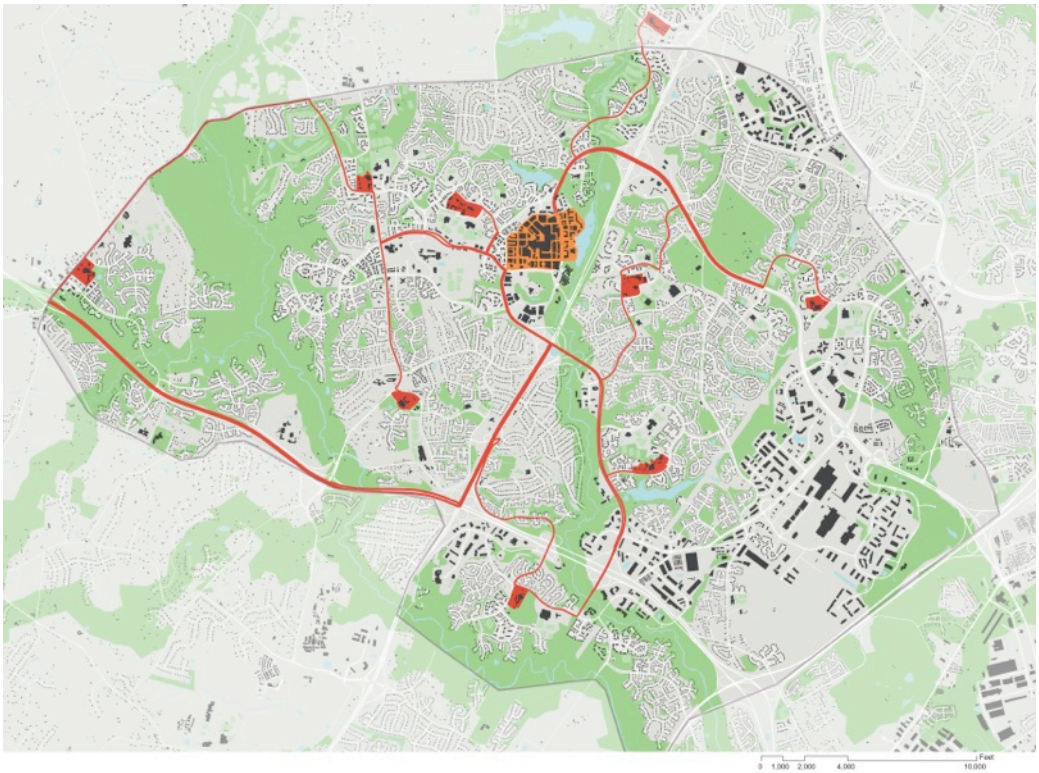

Figure 32: Issue 4 - Auto-Oriented Transportation Network
Image produced by author using Howard County GIS and Maryland Department of Transportation Data

[56] U. S. Census Bureau, "American FactFinder," accessed December 20, 2012, http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

Environmental: Aging Housing and Infrastructure

The construction of Columbia has lasted over a number of decades, with the first village started in 1967 and the last in 1990. This large time frame has resulted in villages having distinct ages as a result of when they began. Since Columbia's process was to build each village at a time, all buildings in each village are approximately the same age. This poses an interesting situation for the three oldest villages, all started in the late 1960s. These three villages are now looking towards retrofit and new development to bring value and novelty back to the villages. The fourth issues of aging housing and infrastructure is a critical issue in determining which villages have the highest need for new development.

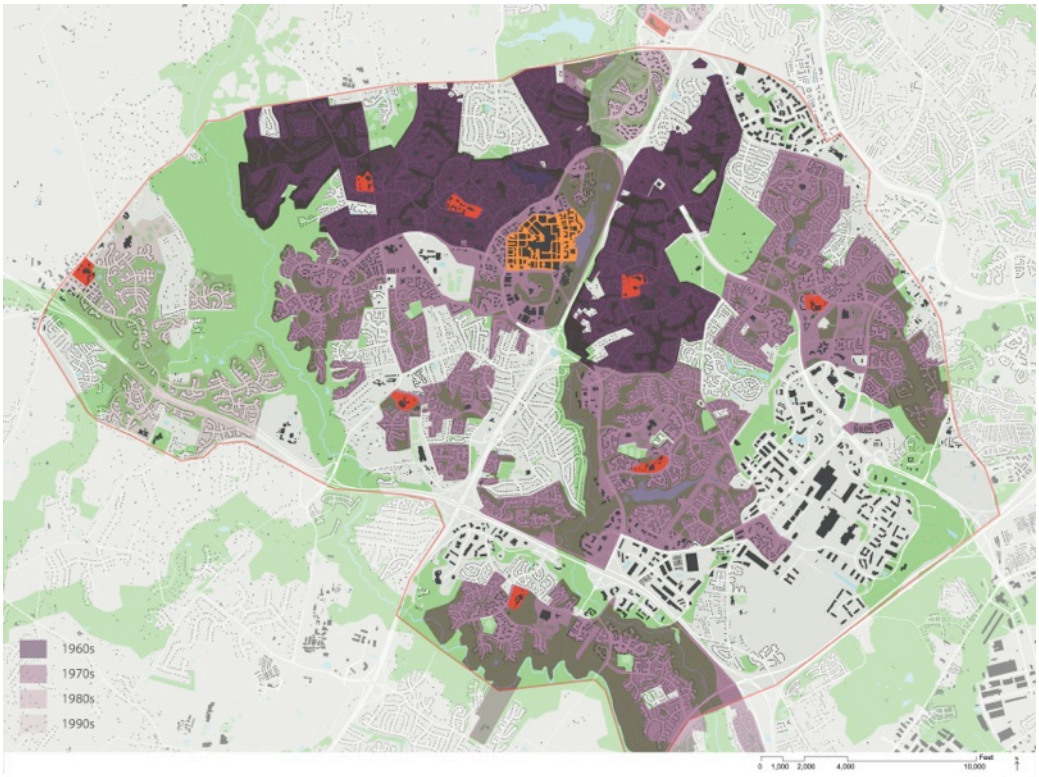

Figure 33: Issue 5 - Aging Housing and Infrastructure Image produced by author using Howard County GIS Data

Social: Segregation of Villages by Wealth

Despite Columbia as a whole having very high median household income rates, there is a large discrepancy in wealth between villages. Unfortunately, this has caused in the development of stigmas associated with various villages based on their perceived wealth. As a result, segregation between villages in reference to wealth is becoming more prominent across Columbia. A good way to chart wealth in Columbia is through poverty levels, as median household incomes on average are quite high. It can be concluded from the following diagram that the villages of Oakland Mills and Owen Brown have the highest poverty levels of over 6 percent, which far exceeds Columbia's average of 3.2 percent. [57]

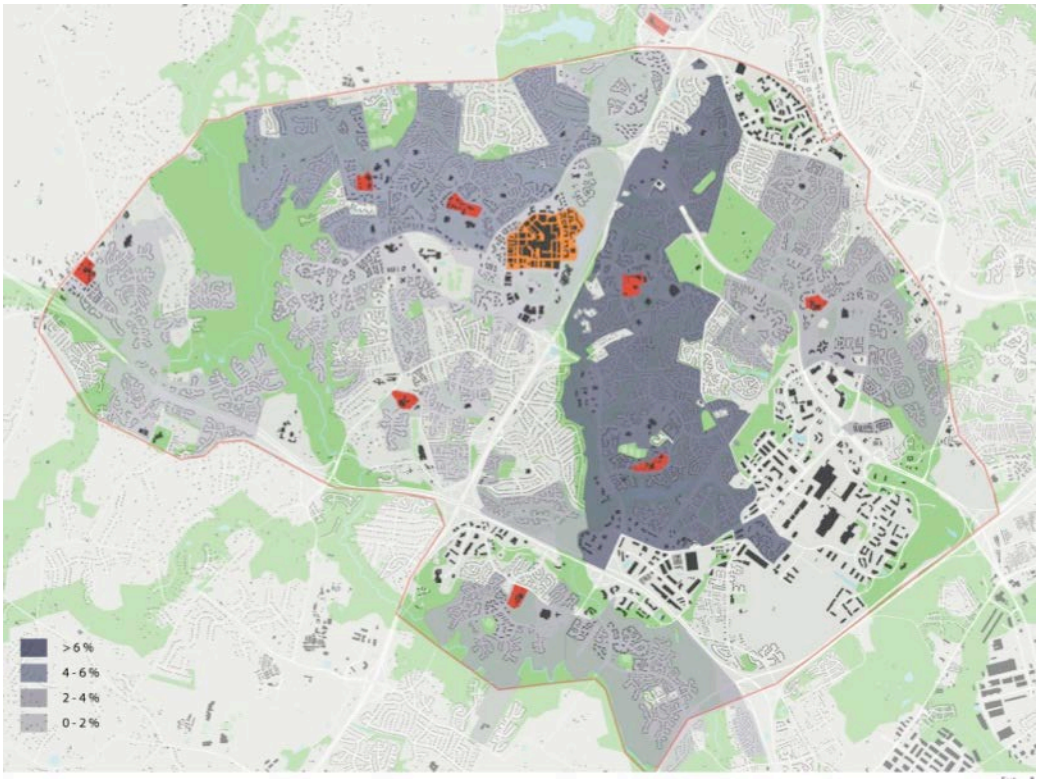

Figure 34: Issue 6 - Segregation of Villages by Wealth
Image produced by author using Howard County GIS and Columbia Association Data

[57] Columbia Association, *Characteristics of Columbia, Maryland: A Demographic and Socio-Economic Profile* (Columbia Association, December 2012), 27, http://columbiaassociation.org/pdfs/Characteristics_of_Columbia_MD.pdf.

Social: Increasing Diversity Within Villages

The final issue for Columbia is the increasing diversity within villages. It might be fair to say that Rouse would be extremely proud of the diversity Columbia has maintained and enhanced over the years. As of the 2010 Census, the village of Oakland Mills and the village of Long Reach now have majority minority populations. Addressed in the earlier site analysis, the increase in Hispanic, Black, and Asian populations across Columbia over the past ten years is obvious. In some cases, this increasing diversity has certain villages acquiring particular ethnicities but has other villages acquiring a diverse range. This increasing diversity within each village poses unique issues for future development in the village centers. It will be critical to form means of community interaction that encourage people of all backgrounds to join together as a community and celebrate their diversity.

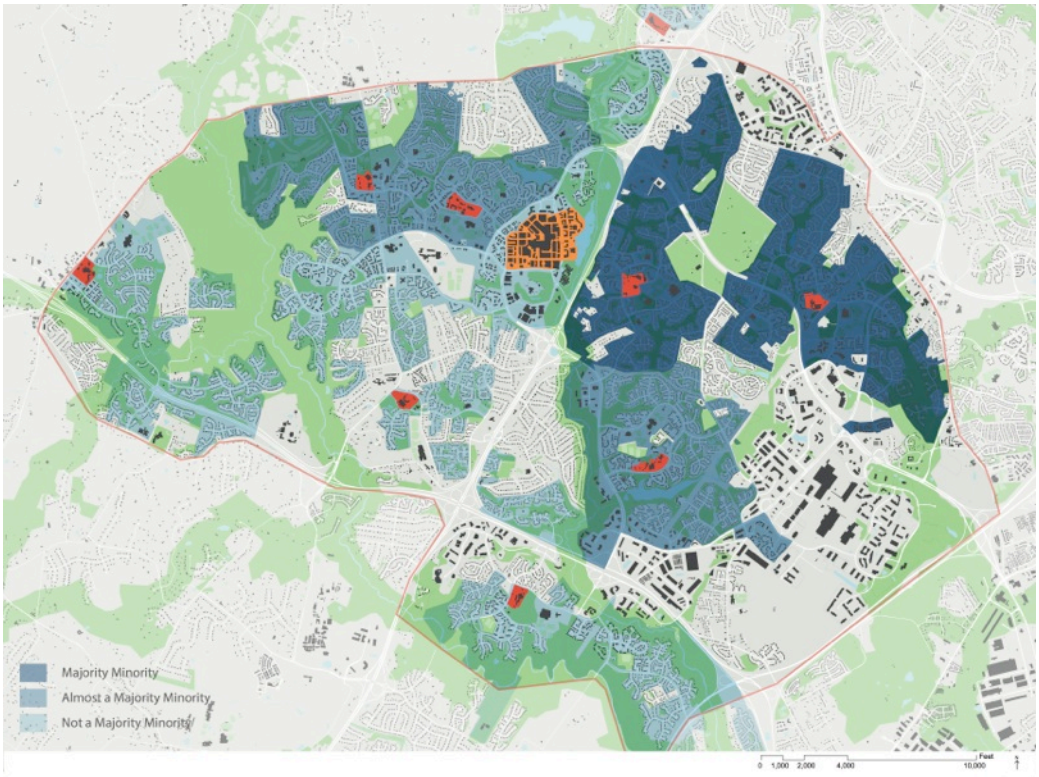

Figure 35: Issue 7 - Increasing Diversity within Villages
Image produced by author using Howard County GIS and U.S. 2010 Census Data

The seven key issues for Columbia are the development pressures from the new town center, struggling village centers, divisive and disorienting street network, automobile-oriented transportation network, aging housing and infrastructure, segregation of villages by wealth and increasing diversity within the villages. Spawning from a thorough comparison of data and spatial analysis, these seven issues were the most significant issues Columbia currently faces when looking towards development in years to come. These are the critical issues this thesis seeks to address by the development of different strategies to analyze the issues and guide design solutions.

Chapter 6: Methodology – Strategies

Town Scale

In order to further analyze Columbia and determine where to intervene, a number of strategies were defined and then diagrammed through the use of ArcGIS and Adobe Illustrator at the town and village scales. Fourteen strategies exist in all and serve to guide analysis and design. It is important to note that the strategies can be applied at a number of different scales and are explored here at the town, village, and village center scale, as well as at the more detailed scale through the creation of street sections and perspectives.

The first strategy maps both five and ten-minute walk radii around the Town Center to give an understanding of areas most impacted by the Town Center redevelopment.

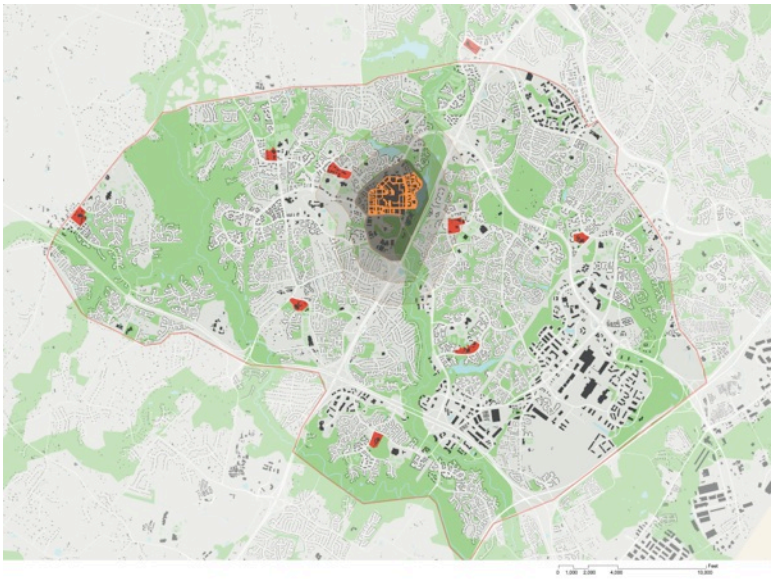

Figure 36: Strategy - Map Pedestrian Walksheds Around the Town Center
Image produced by author using Howard County GIS Data

The second strategy depicts five and ten-minute walksheds for each village center. This helps depict optimal areas for increasing density through future development.

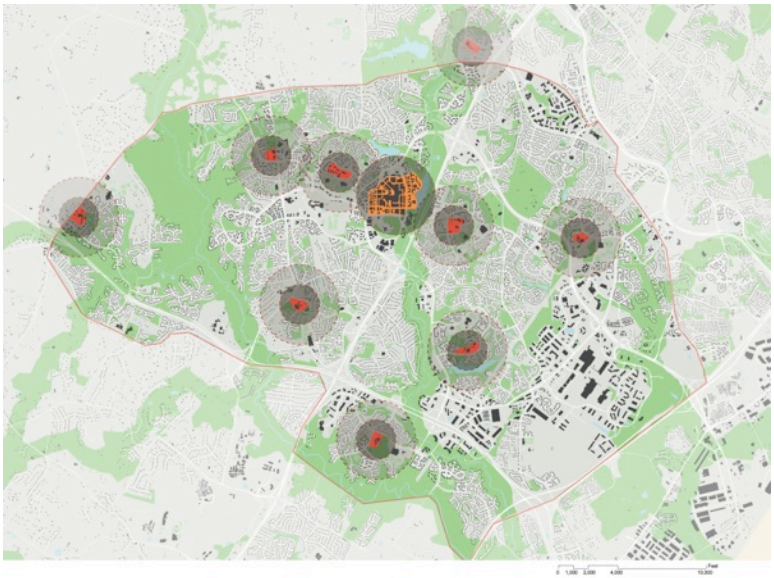

Figure 37: Strategy - Identify Optimal Areas for Increased Density
Image produced by author using Howard County GIS Data

The third strategy diagrammatically depicts and suggests direct connectivity between the village centers.

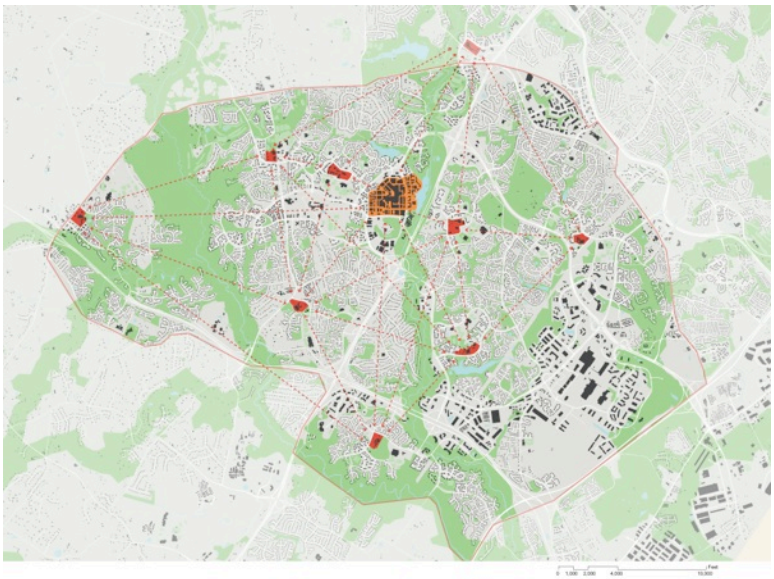

Figure 38: Strategy - Depict Connectivity Between Villages
Image produced by author using Howard County GIS Data

The fourth strategy articulates the most direct routes from each village center to the Town Center, which begins to shed light on the most direct transit connections through Columbia.

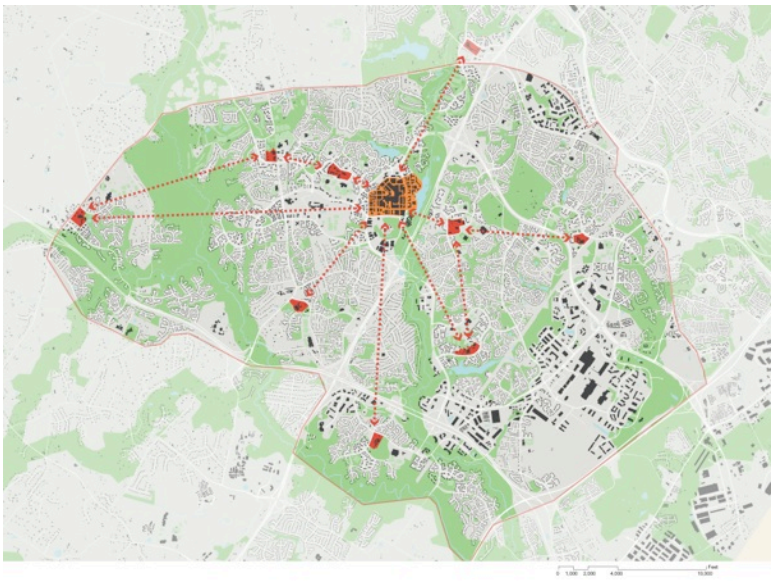

Figure 39: Strategy - Map Opportunities for Enhanced Public Transportation
Image produced by author using Howard County GIS Data

The fifth strategy highlights the oldest villages in Columbia as key areas for redevelopment to occur as these villages approach their fiftieth anniversary.

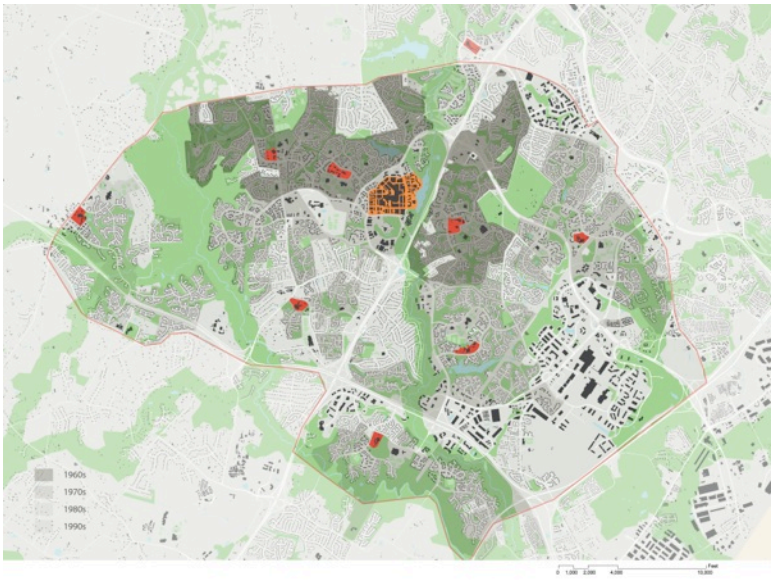

Figure 40: Strategy - Identify Ideal Areas for Retrofit
Image produced by author using Howard County GIS Data

The sixth strategy shows the two villages with the highest poverty rates and highlights them as key locations for mixed income housing.

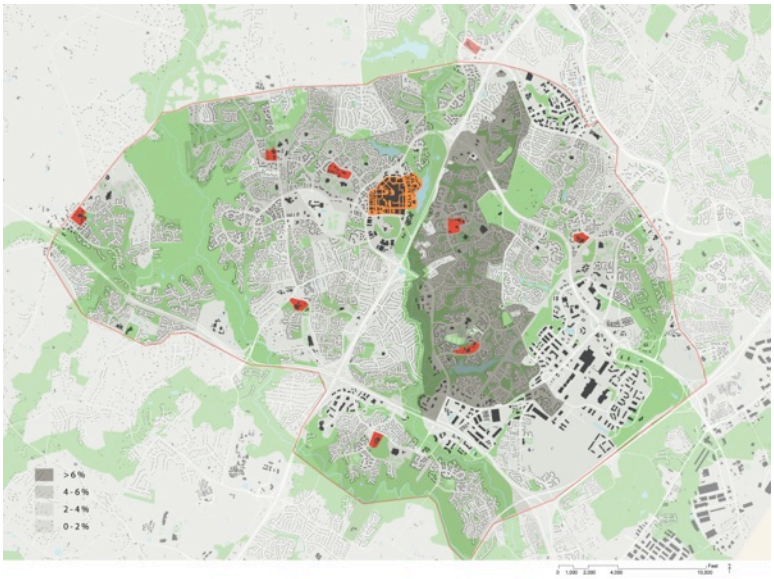

Figure 41: Strategy - Identify Prime Areas for Mixed Income Housing
Image produced by author using Howard County GIS and Columbia Association Data

The seventh strategy identifies the most diverse villages in Columbia as those with majority minority populations. This identification reveals key villages that could benefit from enhanced public space and civic programs that help build community.

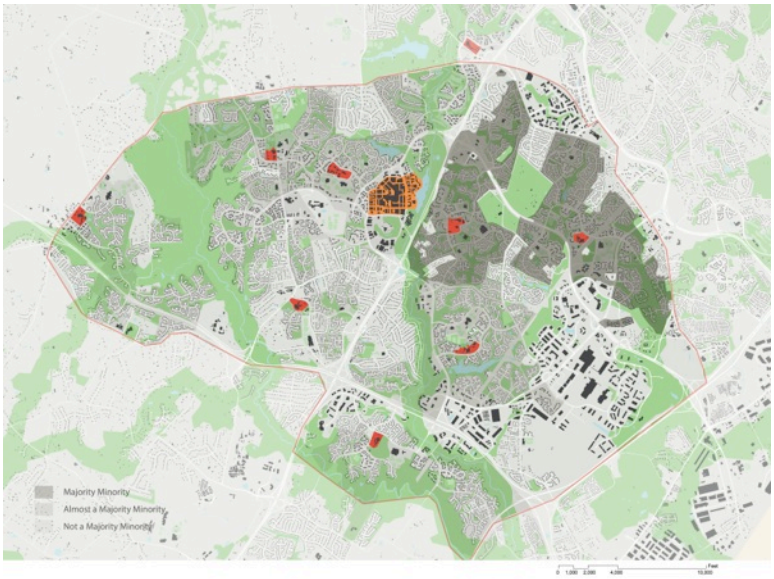

Figure 42: Strategy - Identify Villages with the Most Diverse Populations
Image produced by author using Howard County GIS and U.S. Census Data

Following the various mapping techniques that identify and diagram seven key strategies at the town scale, each diagram was overlaid in order to identify key areas of focus. A diagrammatic route between villages shows the potential for lateral connectivity through Columbia. The two villages adjacent to the Town Center, Oakland Mills and Wilde Lake, proved to be key areas where redevelopment potential is the greatest. Thus, in moving into analysis at the village scale, these critical regions and their relation to the Town Center become the focal point for further strategy definition.

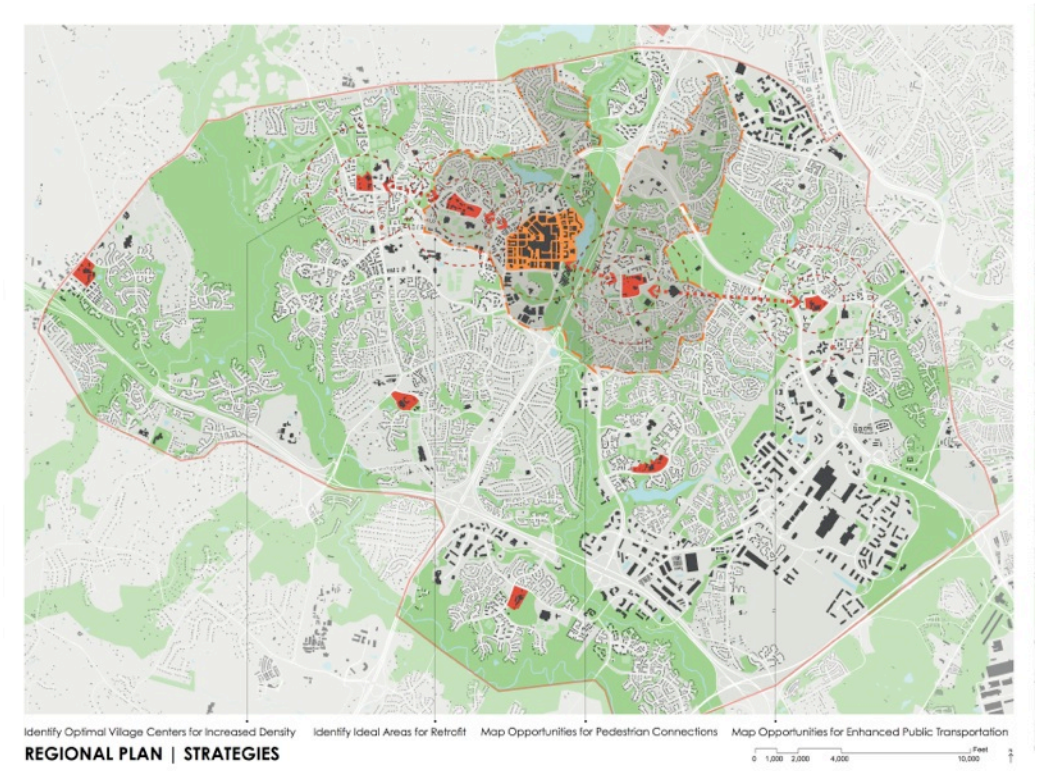

Figure 43: Summary Overlay of Town Scale Strategies Image produced by author using Howard County GIS Data

Village Scale

With Wilde Lake to the west and Oakland Mills to the east, the Town Center is surrounded by two of Columbia's oldest villages. Both villages are also quite diverse,

lending themselves to become unique areas for community building and new development. Yet as one zooms in to investigate strategies at the village scale, a number of other considerations arise in order to accurately analyze Columbia.

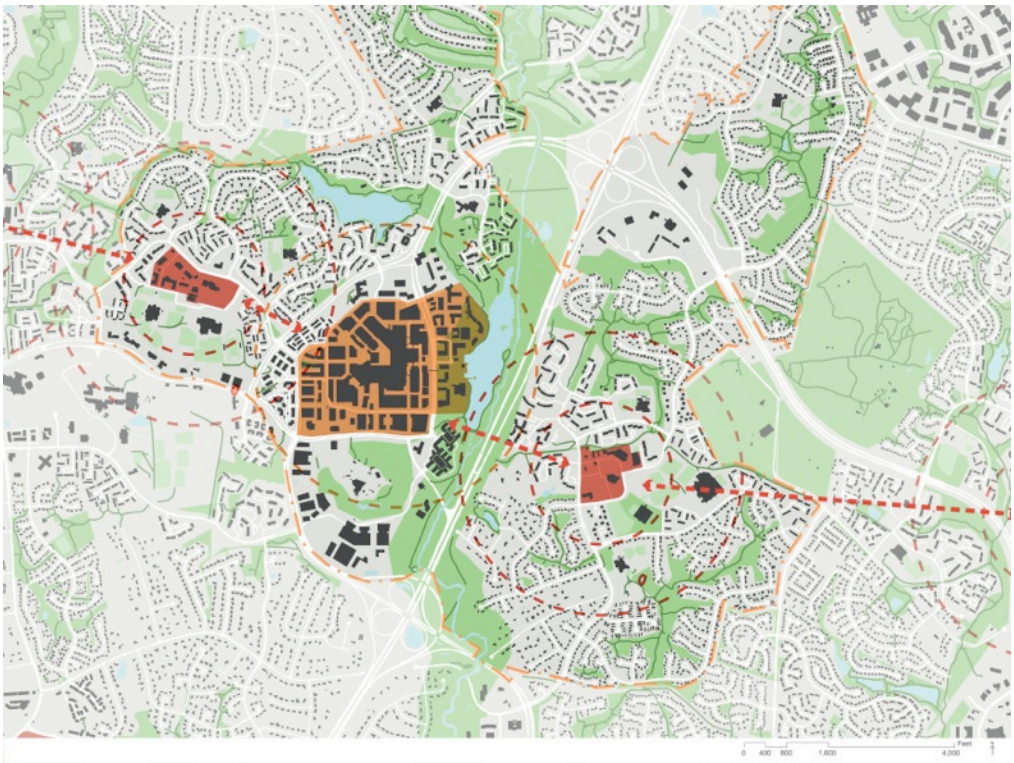

Figure 44: Key Components from Town Scale Image produced by author using Howard County GIS Data

With many small parcels in Columbia privately owned, the acquisition of numerous parcels for comprehensive development is nearly impossible. Thus, the property sizes were mapped using ArcGIS and all properties under one acre in size were deemed “off-limits” as potential comprehensive development sites.

Figure 45: Strategy - Identify Properties Under One Acre in Size
Image produced by author using Howard County GIS Data

It was critical throughout the process to garner an understanding of the scale of adding 1000 additional apartment units to each village center. This map roughly depicts footprints for 1000 additional units to understand projected growth for the villages.

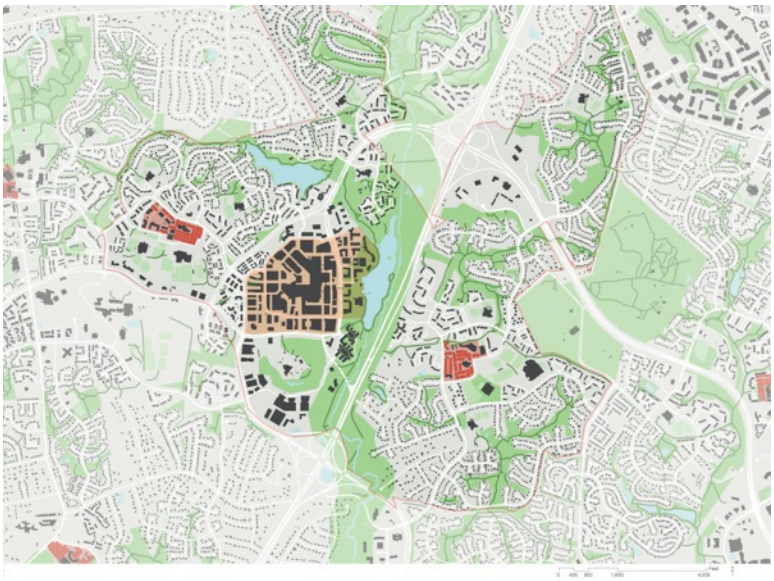

Figure 46: Strategy - Depict Projected Growth for Village Centers
Image produced by author using Howard County GIS Data

With Columbia's disconnected street network, opportunities to create a more porous grid were explore in either of the two key village centers in study.

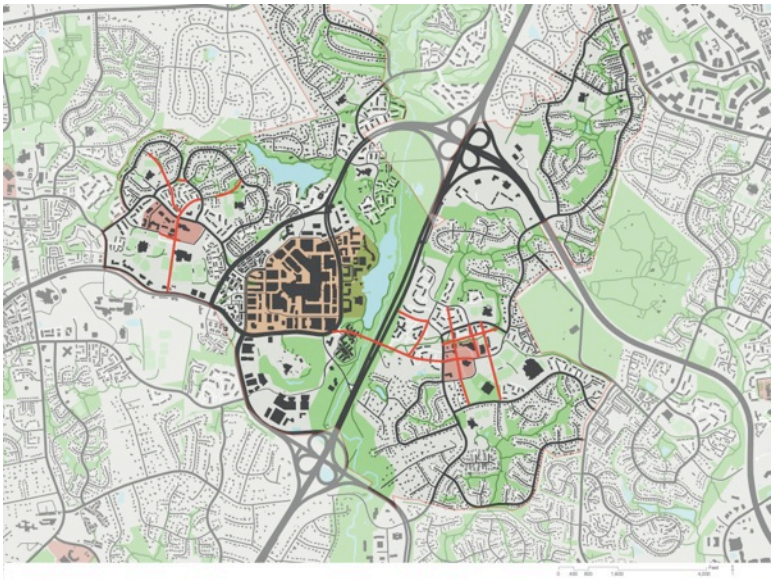

Figure 47: Strategy - Identify Opportunities to Connect Streets
Image produced by author using Howard County GIS Data

Uniting the existing green paths and illustrating a key multi-model street linkage between the critical village centers and the Town Center revealed key connections.

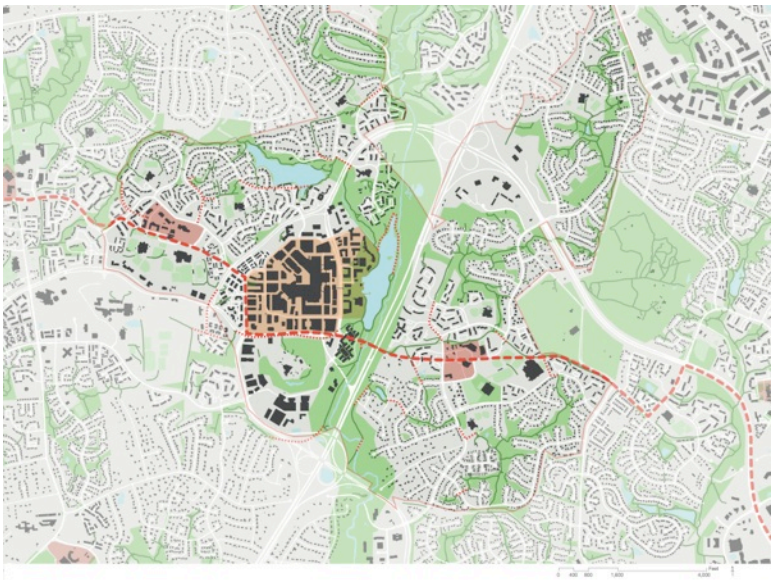

Figure 48: Strategy - Show Opportunities for Pedestrian Connections
Image produced by author using Howard County GIS Data

With the majority of this area existing of buildings from the late 1960s, it was important to map any new construction since 2000 to ensure that proposed redevelopment avoids these sites.

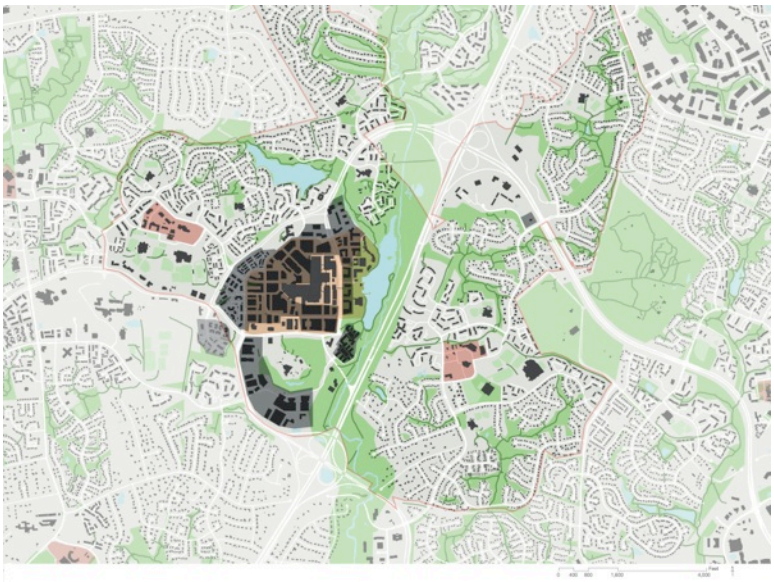

Figure 49: Strategy - Map New Developments
Image produced by author using Howard County GIS Data

Major amenities exist across Columbia and unite people from all different villages. Thus, mapping them allowed for connections to be articulated that further enhance access and interaction between villages.

Figure 50: Strategy - Map Connections Between Major Amenities
Image produced by author using Howard County GIS Data

Areas where village residents can meet and interact within their villages are defined as common ground spaces and should be focused in areas near the village centers.

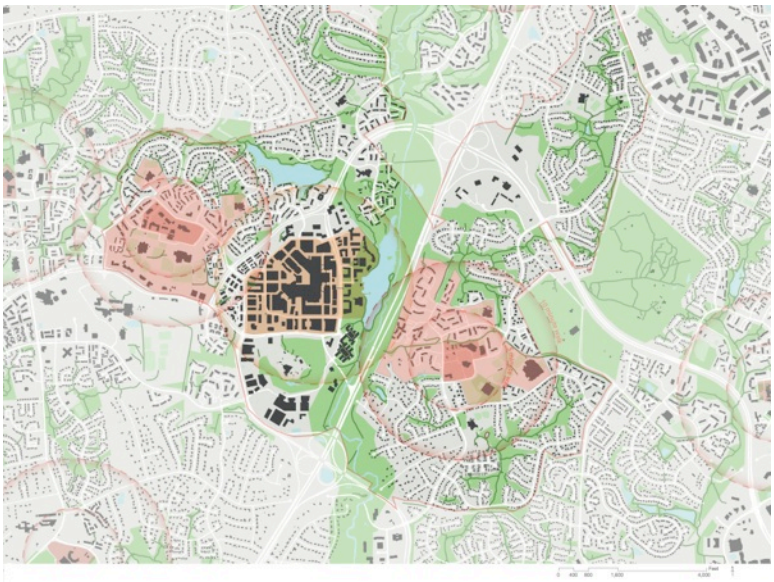

Figure 51: Strategy - Map Potential Areas for Common Ground
Image produced by author using Howard County GIS Data

The overlay of each strategy diagram at the village scale results in a diagrammatic image that articulates a clear connection through the village centers and Town Center while delineating boundaries for development. Knowing that the Wilde Lake Village Center has an approved redevelopment plan, this study opted to investigate the Oakland Mills Village Center, which also happens to be one of the oldest villages with a majority minority population and high poverty rates. Investment in this center would greatly enhance the village and provide new growth opportunities for residents there. Additionally, the Oakland Mills Village Center also has a clear connection to the Town Center that is bifurcated by Route 29. Creating a direct connection to the Town Center can increase access for Oakland Mills residents to citywide amenities and job opportunities.

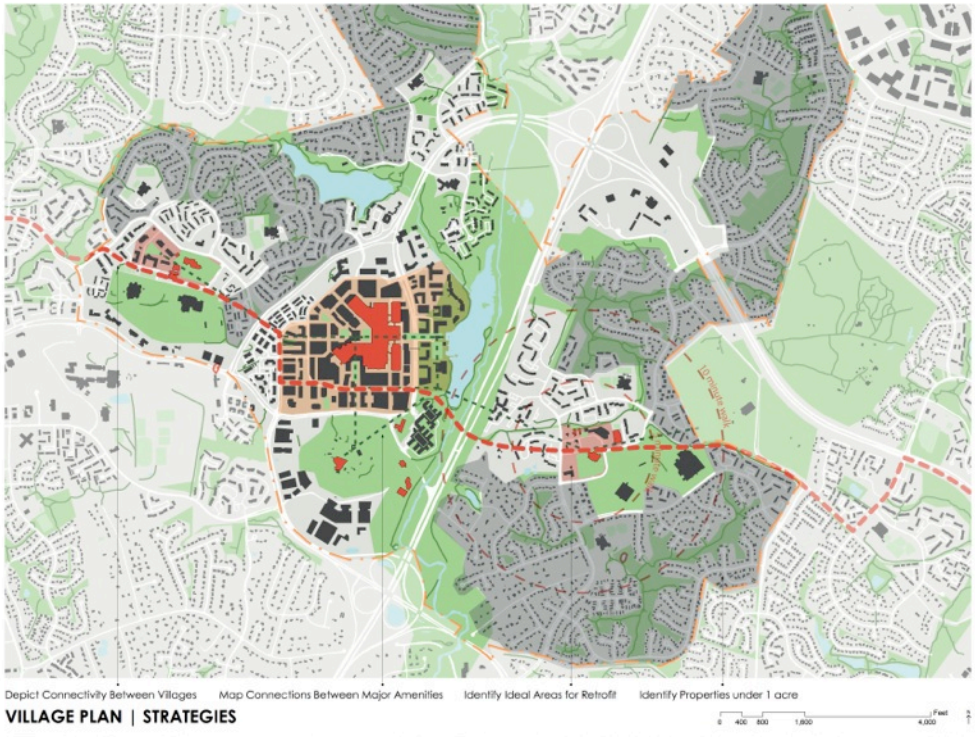

Figure 52: Summary Overlay of Village Scale Strategies Image produced by author using Howard County GIS Data

Village Center Scale

Economic

At the core of the village lies the Oakland Mills Village Center, a center that has been struggling economically for years. Vacant lots and underutilized office space characterize much of what can be seen when visiting the Village Center today. Fortunately, Oakland Mills has been able to host a Food Lion for the past eight years, something many locals have seen as the only thing keeping the Village Center going. Thus, the 2007 Village Center Masterplan looked to support commercial success,

maintain historical assets, and make the center easier to find. [58] While these studies were pivotal in defining modern goals and visions for the community, Oakland Mills has yet to present a full comprehensive plan of the Village.

Figure 53: Existing Oakland Mills Village Center Image courtesy of Google Earth

Nevertheless, problems will arise as the housing stock continues to age and updates become necessary to keep housing competitive in Columbia. Currently, the aging housing stock within the area has Oakland Mills struggling to maintain the thriving property values they once had. This aging housing stock makes older villages of significant interest as declining values are resulting in a demographic shift in the communities. Many homes that were once owner occupied are becoming rental units, further shifting the economic composition of Oakland Mills.

The main access routes to Oakland Mills two encompassing highways: the local Brokenland Parkway to the south and Route 108 to the north, with Interstate 29

[58] Oakland Mills Village Center Masterplan Committee, *Oakland Mills Village Center Masterplan*, Oakland Mills: We Value Connections (Howard County, MD, 2007), http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=6919292.

hugging the West and Route 175 bisecting the Village. From these roads, smaller local roads wind their way to the Village Center. Two bus routes also filter through the Village of Oakland Mills. Both come from the Town Center, briefly reach the Oakland Mills Village Center and then exit the neighborhood in opposite directions down Oakland Mills Road. Bikes have their own network of paths, shared by pedestrians as well that not only circulate throughout the village, but also carefully avoid crossing major roads. A pedestrian bridge across Route 29 takes walkers and bikers directly to the Town Center and a short tunnel takes exercisers underneath Route 175. Many of Oakland Mill's residential roads are also friendly for bikers who might diverge from the pedestrian path.

As one of Jim Rouse's initial proposals, Columbia was to have buried telephone wires and cables as well as proper sewer and water infrastructure for all development. To this day, the Oakland Mills relies on this infrastructure to fulfill everyday needs, as water comes from Baltimore City and sewage is treated at the Little Patuxent Water Reclamation Plan in Savage, MD.

Environmental

One of the initial core visions of Columbia was to create a town that respects the land. Preserving key areas of the environment and having developmental sensitivity to natural processes was important. This principle is obvious in the development of Oakland Mills as construction continues to be sensitive towards streambeds, floodplains, and topography. Streambeds in the neighborhood are preserved as a series of green corridors that have bike and nature trails. These green areas buffer various communities while also uniting them in a common shared space.

Oakland Mills' current land use is dominated by residential neighborhoods yet within the large number of residences there is a moderate mix of housing densities. The areas immediately north and west of the Village Center have the highest densities with courts of apartment complexes and townhouses that encircle Talbott Springs Elementary School. Townhouses also stretch across the southern edge of Blandair Park to the North and East of Oakland Mills High School. These slightly more dense housing options are located closest to the Oakland Mills Village Center in an effort to enhance access and use of the Village Center. Other areas of Oakland Mills have single-family houses running along streets and cul-de-sacs with a couple more elementary schools to support the families in those areas.

Adjacent to the Oakland Mills Village Center are three schools; the smallest high school in the county Oakland Mills High School, Oakland Mills Middle School, and Talbott Springs Elementary School. Possibly in part, due to the nationally renowned education system, gradual increases in population are causing overcrowding in some schools. [59] It is important to consider this when designing for future growth as a new school or redistricting within the Village could prove to be essential.

Social

Jim Rouse's initial vision of Columbia was for a diverse and united community. Oakland Mills epitomizes this vision with a healthy mix of races and incomes throughout the community. The mix of housing options provided aides in supporting such diversity as housing stock in Oakland Mills ranges from apartment complexes to

[59] Howard County Public School System. 2009. http://www.hcpss.org/

townhomes to single-family homes. The village is growing in population and minority populations are continuing to increase.

In recent years, Oakland Mills has put immense effort into sustaining a vibrant, functioning community. In 2005, a workshop attended by over 200 community residents was held in order to brainstorm and discuss ideas and values for the future of the village center. [60] This assembly resulted in the approval of the Revitalization Plan, which describes four strategic areas of the community that need focus: safety, housing, education, and community vibrancy.[61] Additionally, an important value expressed by community members was to establish Oakland Mills as a "full circle of life" neighborhood by creating opportunities to engage people of all ages. [62] As a result of these revitalization efforts, in Spring 2007 a Village Center Masterplan was devised to help energize the Village Center at Oakland Mills.

Application of Historical Changes

Selecting the Village of Oakland Mills presents unique opportunities for modeling methods of future development in Columbia. Referring back to the four key components outlined from researching changes in urban ideas since Columbia will help shape for specific aspects of development.

Following changing ideas concerning the pedestrian realm, the Village of Oakland Mills has a clear opportunity to create complete streets that encourage, walking, biking, driving, and public transit. Establishing a street edge is important in order to define the public realm and linking the expanded pedestrian network with

[60] Oakland Mills Community Association, "Oakland Mills: We Value Connections," *Oakland Mills*, 2012, http://www.oaklandmills.org/node/1.
[61] Oakland Mills Village Center Masterplan Committee, *Oakland Mills Village Center Masterplan*.
[62] Oakland Mills Community Association, "Oakland Mills: We Value Connections."

existing and future open spaces will be key in establishing walkability within the Village Center.

In terms of environmental components, the enhancement of the ecological environment will prove important in years to come. Ensuring the effectiveness of storm water management, green space conservation, and natural system performance will maintain a community with seamless ties between natural and man-made elements. Ensuring a mixture of land uses is also critical in any village center redesign. Although the Oakland Mills Village Center has areas for retail, office, and residential uses, no buildings exist that incorporate more than one use. Thus, in order to provide the density to support what is currently a struggling grocery story, incorporating a mixture of uses throughout the Village Center could prove advantageous for the success of retail and office in the community.

The importance of public transportation is a major impetus for development today. Economically, public transportation provides a stable infrastructure for developments to occur around and connects people to different areas. In Columbia, a major rail line could easily connect to Baltimore, Washington D.C., or even to Fort Meade in an effort to reduce vehicular transit in the area. Public transportation is a key component for relating not only Oakland Mills to the Town Center, but also Columbia to the wider region.

Application of Strategies

Moving into design application at the village center scale, the fourteen strategies iterated above as well as the four ideas about urban form shape the masterplan design

of the Oakland Mills Village Center. Each drawing depicts a number of strategies employed and is merely one iteration of how these strategies might be implemented.

In order to explore designs for new development in the village center, the strategy of identifying ideal areas for retrofit is employed in order to determine which buildings could be removed. On the whole, the retail and office space in the village center is quite dilapidated and does not lend itself to easy refurbishment. These uses along with scattered garden style apartment buildings built in the late 1960s are buildings that can afford to be removed.

Two historically protected barns exist in the Oakland Mills Village Center. These barns, predating the start of Columbia, remain as renovated and reused community centers. The ice skating rink at the village center is another key programmatic element kept on the site. The interfaith center, a fundamental component to each village center, is a key programmatic element to keep; however, its current structure does not lend itself to renovation and as a result, the interfaith center is relocated.

Figure 54: Oakland Mills Village Center Existing Uses Image produced by author courtesy of Google Earth

Figure 55: Proposed Streets and Preserved Buildings Image produced by author courtesy of Google Earth

The second two strategies of depicting connectivity between villages and identifying opportunities to connect streets are employed in the design the street network. It is critical to identify opportunities to connect streets in an effort to create a more porous street network that refrains from placing immense emphasis on just a few streets. Existing roads are extended through the village center to connect residents from all directions directly to the heart of the village.

A new main street is developed that unites the existing and proposed network of streets in Oakland Mills across Route 29 to the Town Center. Currently this connection is a pedestrian bridge, so this thesis proposes the expansion and development of that connection into a multi-modal access route for Oakland Mills. When explored in further detail, this connection gives way to yet another strategy of mapping opportunities for enhanced public transportation, where the new street

connecting Oakland Mills to the Town Center can house a bus route or light rail that connects the Oakland Mills Village Center to other village centers across Columbia.

Figure 56: Street Section of Connection to Town Center Image produced by author

Figure 57: Street Perspective of Connection to Town Center Image produced by author

Following the design of the street network, the placement of civic buildings and green space is explored. This employs the three strategies of mapping potential areas for common ground, mapping opportunities for pedestrian connections, and mapping connections between major amenities. An existing pedestrian trail runs adjacent to the existing village center and connects it to both the Town Center and the new Blandair Park. It is important that this key pedestrian artery furthers its connections to the Village Center and thus, both large and small parks are designed in relation to this pedestrian circulation route. A main civic park and plaza is established that not only unites the key elements of the original village center (interfaith center, community center, and grocery store) but also ties the pedestrian path directly to the heart of the village center, resulting in the development of common ground where residents of all backgrounds can congregate.

Figure 58: Green Spaces and Pedestrian Networks Image produced by author courtesy of Google Earth

Figure 59: Perspective of Main Civic Park and Plaza Image produced by author

Returning to the key idea of mixed-use development and how it has augmented in years since the construction of Columbia determines the delineation of program throughout the village center proposal. With limited retail capacity in the village center, a perpendicular retail street is created that serves as a transition zone, redirecting visitors towards the civic plaza and into the village center as they move along the street that connects to downtown. This perpendicular street provides good visibility for the retail, establishing a vibrant street atmosphere with cafes, outdoor eating, and entertainment.

Figure 60: Proposed Building Uses Image produced by author courtesy of Google Earth

Figure 61: Perspective of Retail Cross Street Image produced by author

Depicting the projected growth for the village center is yet another vital strategy for this design proposal. Knowing that projections call for 1,000 additional apartment units per village center by 2030, this proposal accounts for 1,500 additional units.

This is a result of the Oakland Mills Village Center's proximity to the Town Center and takes into account a weighed distribution of these 9,000 apartment units by locating more development in the village centers adjacent to the Town Center.

Figure 62: Final Design Proposal Image produced by author courtesy of Google Earth

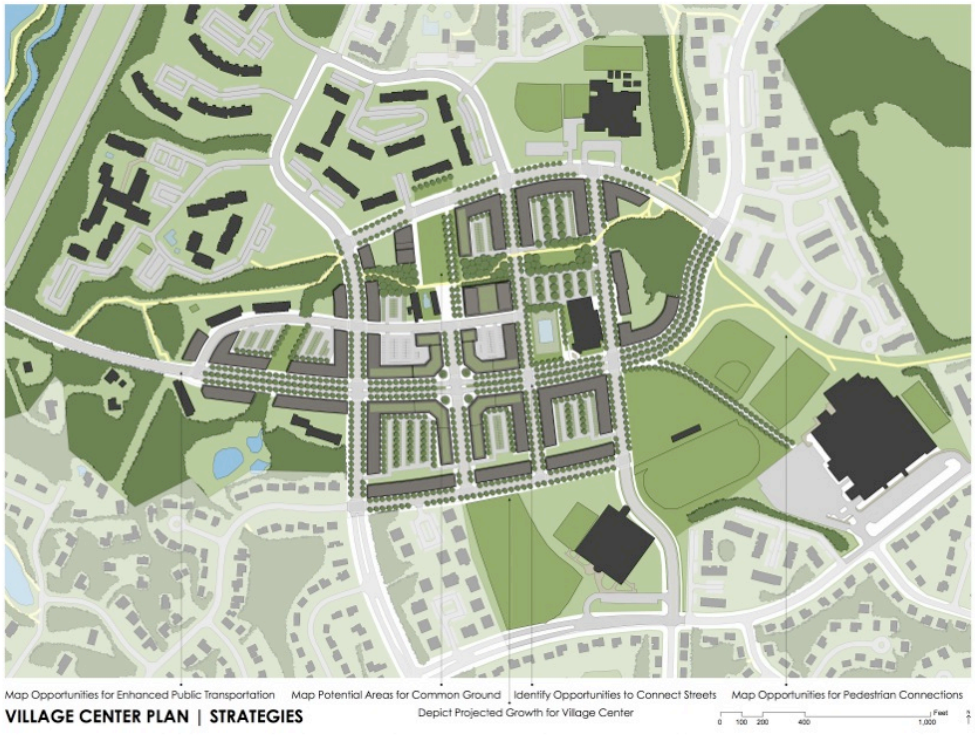

Figure 63: Final Design Proposal Image produced by author

Conclusions

Through applying a variety of strategies at the village center scale, a final design came to fruition. However, this design merely represents one application of the strategies and is an exercise in exploring a potential development form for the Oakland Mills Village Center. The strategies are intended to transcend formal and stylistic boundaries of present day urban design. Other applications of these strategies may result in a different final form, but regardless of shape, each iteration will work to address the seven key issues Columbia faces in upcoming years.

It is vital to investigate current issues in Columbia in order to understand how the new town may move forward in the twenty-first century. Columbia spawns from a scrupulous yet unique design process that has resulted in it being one of the most popular places in the nation to live today. There is much to be said about the success of Columbia and its evolution over the years. Critical research that takes the core founding ideas of Columbia and translates them into modern terms is vital for preserving the unique identity of Columbia. Pairing these values with both new ideas about community and an analysis of current issues in Columbia produces a comprehensive approach to design intervention. It is from this analysis that effective and appropriate design will spawn; resulting in proposals that not only suggested new growth for Columbia, but do so while maintaining the founding principles of Columbia.

While this process is especially pertinent to Columbia, the identification of issues and strategies can be applied to other places. The significance of taking a clear, methodological approach to design provides for thorough analysis of the task at hand.

The most important aspect of this process is the identification of the key issues because without careful deliberation of current problems, design solutions hold no value. All too often, architects fail to fully comprehend site forces that transcend the physical. Economic, environmental, and social forces as initially addressed in Columbia should be thoroughly addressed in any building or masterplan design as the physical world has great impacts on all aspects of life.

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